

**Dividend Policy of Commercial Banks in Nepal  
(with special reference to HBL,EBL and NIBL)**



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# RECOMMENDATION

This is Certify that the thesis  
Submitted by:  
Suresh Shrestha

Entitled  
**Dividend Policy of Commercial Banks in Nepal**  
**(with special refence to HBL,EBL and NIBL)**

has been prepared as approved by this department in the prescribed format of faculty management. This thesis is forwarded for examination.

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## VIVA-VOCE SHEET

We have conducted the VIVA-VOCE Examination of the thesis presented by

Suresh Shrestha

Entitled

**Dividend Policy of commercial Banks in Nepal  
(with special reference to HBL, EBL and NIBL)**

And found the thesis to be original work of the students and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement Master's Degree in Business studies (MBS).

VIVA-VOCE Committee

Head of Re-Search Committee : .....

Member (Thesis Supervisor) : .....

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Member (External Expert) : .....

Date : .....

# DECLARATION

I hereby declare that work done in this thesis entitled "Dividend" Policy of Commercial Banks in Nepal with special reference to Himalayan Bank Ltd., Everest Bank Ltd. and Nepal Investment Bank Ltd." Submitted to St. Xavier Campus, faculty of management, Tribhuvan University is my own original work done in the form of partial fulfillment of the requirement of Master's Degree in Business Studies (MBS) under the guidance and supervision of Prof. Shankar Thapa.

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.....  
**Suresh Shrestha**

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## LIST OF ABBREVIATIONS

A	Regression Constant
b	Regression Coefficient
BVPS	Book Value Per Share
&	and
D/Y	ratio Dividend Yield ratio
DPS	Dividend Per Share
EBL	Everest Bank Limited
EPS	Earning Per Share
FY	Fiscal Year
HLB	Himalayan Bank Limited
i.e.	That is
JVBS	Joint venture Banks
MVPS	Market value per share
NIBL	Nepal Investment Bank Limited
NOC	Net Organizational Capital
NP	Net Profit
NW	Net Worth
P/E ratio	Price Earning ratio
Pm	Market Price per share
r	Coefficient of Correlation
RM	Research methodology
R <sup>2</sup>	Coefficient of determination
Rs.	Rupees
SD	Standard Deviation
SEE	Standard Error of Estimate

# CHAPTER I

## INTRODUCTION

### 1.1 General Background of the study

There are limited financial activities before 1980's. But after the democratically elected government adopt the liberal and market oriented economic policy. There is a sign of improvement in the financial sectors. Structural changes in the financial sector is including liberalization of interest, creation of basic regulatory framework and development of long term government securities. Like in other sector, active participant of private sector in financial sector will play and important role in economic development of the country. In order to improve the role of financial sector in economic activities, it is essential to flow financial resources easily and in a simple way which would in tern, help to achieve desired outcomes from the economic development. Due to the poor and small capital market condition, though the present development and expansion of financial sector are directed towards the same objectives, the country has not able to reach the desire outcomes. It is as early stage of growth. There is shortage of symmetric information between management of newly established Nepalese companies and Nepalese investors who are interested in invest.

In capital market, all forms operate in order to generate earnings. Shareholders supply equity capital, hopping to share in these earnings either directly or indirectly. When, a company pays out of portion of its earning to shareholders in the form of dividends, the shareholder benefit directly. If instead of paying dividends, the shareholders can expect to benefit indirectly through future increases in the price of there stock. Thus shareholders wealth can be increased through either dividends or capital gains. The policy of a company on the division of its profits between dividends and retention is none as dividend policy. All aspect and question related to payment of dividend are containing in a dividend policy. The wealth maximizing objective in the long run can be achieved only by maintain adequate funds for investment. Financing growth can be considered as a secondary objective of dividend policy. Therefore, the firm should forecast the future need for funds and determined the amount of retained earnings available after payment of dividends.

Though the establishment of cooperation in Nepal has been expedited in recent years, actual owners of the cooperation do not seem adequately expected by paying dividends. The government is unable to receive dividends from the public enterprises as documented in past several years" budget speeches and economic surveys published by HMG, Ministry of finance. Recently joint ventures banks and some other public limited companies have shown new trained of paying dividend to shareholders It is in this context that a study of dividend policy in Nepal assumes greater significances. Despite the fact that only few companies are paying dividends, there is also growing practice of paying stock dividend among some Nepalese companies. The clue to stock dividend distribution may lie in their perceived substitution for relatively low cash dividends. It is said that when the firm need to retain a high percentage of rankings,

they issue stock dividends so that the shareholders of the firms are content. Managers strongly agree that stock dividends have a positive psychological impact on investors receiving them.

The issue of how much a company should pay its stockholders as dividends is one that has concerned managers for a long time. It has often been pointed out that a company that raises its dividends often experiences an increase in its stock price and that a company that lowers its dividends has a falling stock price. This seems to suggest that dividends do matter in that they affect stock price. But this casual relationship has been refuted by several recharges on the grounds that dividends per share do not affect stock prices, rather: it is the informational content of dividends that effect stock prices. Thus there should be no direct link between dividends and stock prices. Ross (1977) and Bhattacharya (1979) have argued that dividends policy could be viewed as a signaling mechanism whereby firms with profitable projects are able and willing to pay higher dividends in order to segregate themselves from firms with less profitable projects. They provide a rationale for value maximizing firms paying positive dividends when risk premiums per unit of dividend yield are positive in equilibrium. Ross proved that an increase in dividend paid out can represent an inimitable and unambiguous signal to the market place that a firm's prospects have improved. If this is an accurate picture of the way in which firms operate, then it follows that changes in dividend payments supply the market with information regarding management assessment of the level of the firm so long run cash flow.

Higher dividends can directly benefit shareholders because they reduce the free resources which manager can use sub optimally. Some economists believe that management decide to pay dividends in order to reduce agency costs. By issuing dividends management is forced to go to the capital markets for additional financing. Each time it attempts to raise fresh capital, its operation are intensely scrutinized by investment bankers, accountants, and other market professionals. Because these parties have comparative advantages over the bondholders in monitoring the firms activities, dividend payments accompanied by subsequent new financing may lower monitoring costs and there by increase firms value. There are reasons for efficiency of dividends as signals. Dividend announcement are backed by hard, cold cash. The firm must generate this cash internally or convince the capital markets to supply it. Alternative communications may lack the credibility that comes from "saying it with cash". Investors may feel that financial statements have been skillfully massaged by the financial staff. In addition, dividend decisions tend to be future oriented as opposed to accounting statements which document past performance. "Besides credibility, dividends also have the advantages of simplicity and visibility. Many other announcements are, at the same time, complex and detailed in focus. They require time and expertise to decipher. As simple numerical signals, dividends facilitate comparative analysis unlike statement by management which may be difficult to calibrate. Simplicity is especially advantageous for investors holding many firms' shares to achieve the benefits of diversification. Further, dividend signals convey information without releasing sensitive details that may be useful to competitors. (Ibid,35,36).

Management's interpretation of the firm's recent performance and its future prospects. The improved corporate dividend practice is thus an essential means to solve the problem of asymmetric information between management of newly established Nepalese companies and Nepalese investors who have

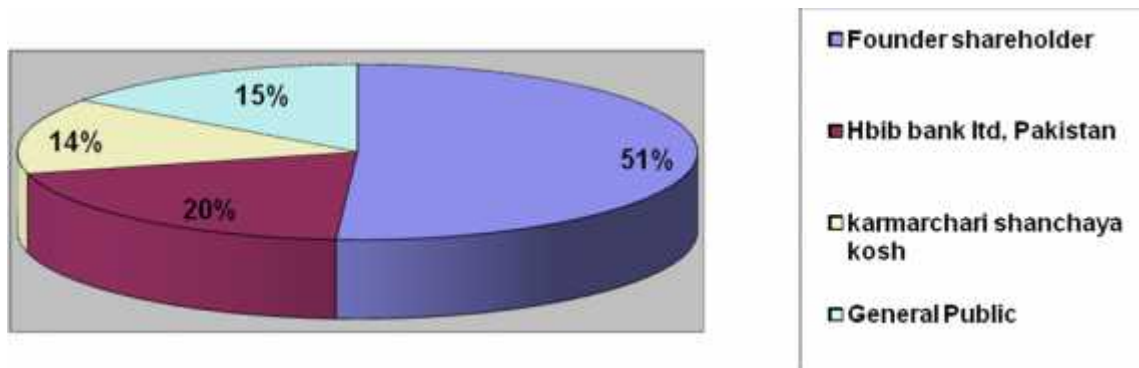
poured their funds. Viewed in this prospective, the study devoted to Banks dividend practice in Nepal may help to develop capital market.

### 1.1.1 A Brief Profile of Sampled companies

#### Himalayan Bank Limited

Himalayan Bank Ltd is a joint venture bank with Habib Bank Limited of Pakistan was established 1993 under the Company Act 1964. This is the first Joint Ventures Bank with maximum share holding by the Nepalese private Sector, which managed by Nepali chief executive. An authorized capital of the bank has been Rs 600,000,000, issued capital Rs 300,000,000. Its ownership is composed of founder shareholders 51% Habib Bank Ltd, Pakistan 20%, Karmachari Sanchaya Kosh 14% and Public 15%. ATM and Tele-banking were first introduced by HBL. Presently the bank has 21 branches. The head office is at Thamel. The main aim of the bank is to extend professional banking service to various section of the society and contribute in the economic development of the country.

Fig 1.1  
Ownership structure of HBL

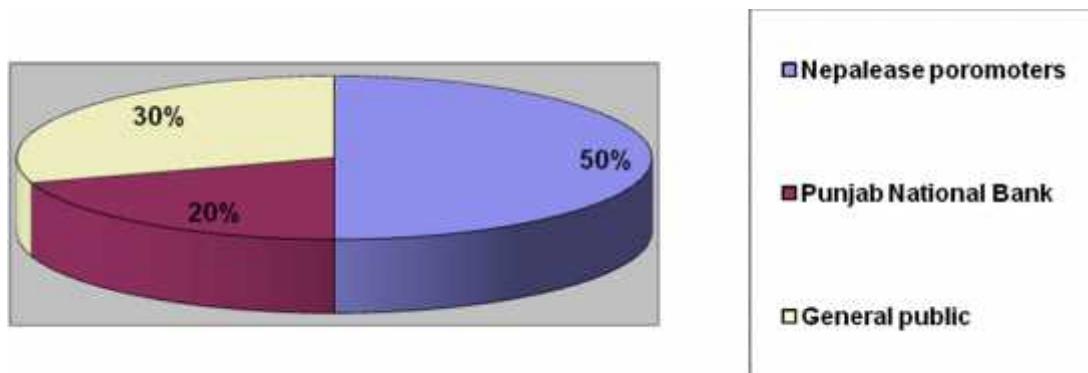


#### Everest Bank Limited

As a policy of Government to open the banking sector for private and foreign participation starting from mid eighties, Everest Bank Limited was established in 1993 under company Act 1964 with an objective of carrying out commercial banking activities under the commercial bank act 1974. United Bank of India Ltd under technical services agreement signed between it and Nepali promoters was managing the bank from the very beginning till November 1996. Later on it handed over the management to Punjab National Bank Ltd, India. It was composed by which holds 20% equity on the bank's share capital, Nepalese promoters 50% and general public 30% hold the balance equity of the bank. The bank has got an authorized capital Rs 400,000,000 issued capital Rs 264,000,000 and paid up capital Rs 220,858,600. Presently the Bank has 27 branches. Head office is in Lazimpat. The main aim of EBL is to extend

professional banking service to various section of the society and they're of contribution in the economic development of the country.

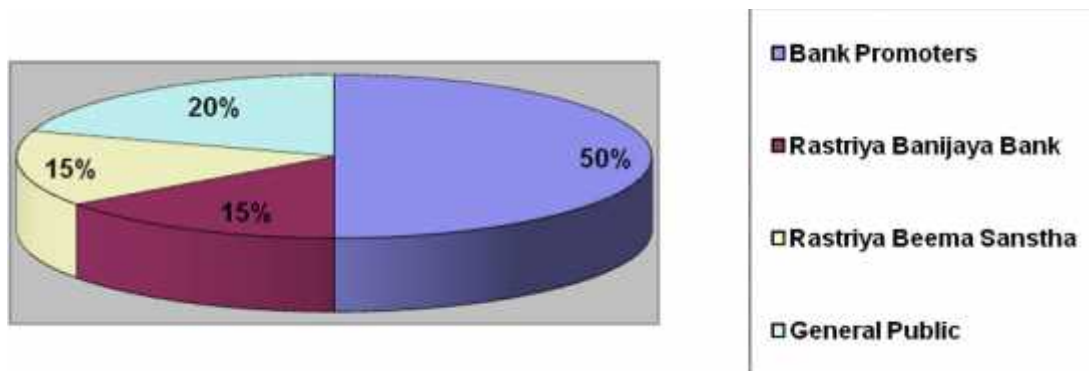
**Fig 1.2**  
Ownership structure of EBL



### **Nepal Investment Bank Limited**

Nepal Investment Bank Limited, (NIBL), previously Nepal Indosuez Bank Ltd, was established in 1986 as a joint venture between Nepalese and French partners. The French partner (holding 50% of the capital of NIBL) was Credit Agricore Indosuez, a subsidiary of one the largest banking group in the world. With the decision of Credit Agricola Indosuez to divest, a group of companies comprising of bankers, professionals, industrialists and businessmen, has acquired on April 2002 the 50% share holding of Credit Agricola Indosuez in Nepal Indosuez Bank Limited. The name of the bank has been changed to Nepal Investment Bank on B.S 2059-02- 29 (30 May 2002) upon approval of bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's office with the following shareholding structure. A group of companies holding 50% of capital Rastriya Banijya Bank holding 15% of the capital. Rastriya Beema Sanstha holding 15% of the capital. The remaining 20% being held by the General Public (which means that NIBL is a Company listed on the Nepal Stock Exchange). Presently the bank has 24 branches. The head office is at Durbarmarg.

**Fig 1.3**  
Ownership structure of NIBL



### 1.3 Statement of the Problem

Dividend policy determines the division of earning between stockholders and reinvestment in the firm. Retain earning is the one of the most significant source of the fund for financing corporate growth. Dividends constitute the cash flow that accrue to stockholders , Dividend policy affects different area of financial structure like flow of fund ,corporate liquidity, stock price and investor satisfaction. It is important aspect of financial management.

In the context of Nepal, after liberal government policy they are progressive establishment of joint venture banks, insurance, companies and financial companies which are the main supportive for the development of the country In Nepal , it has been found that especially the joint venture commercial banks, some sound insurance companies manufacturing companies and hotel industries have been distributing dividends, but do not seem to be serious regarding dividend decision since most of them have don't have any consistent and clear cut policy on dividend distribution. Cash dividend paid by the company is viewed as good signal to investors or it signals the profitability enhancement of the company to investors but this fact is still ignored as dividend decision is taken by the company without any wise consideration or with thinking its future impact on company. There is no satisfactory result regarding dividend is obtained so far.

Dividend being one of the inspiring factor to the investor, it is not matching with earning per share of the company so what is the relationship between dividend and earning per share.

There is no proper relationship between dividend and quoted market price of the share. Exit returns of listed company's lack of the appropriate relation ship with price as most of the company is unable to distribute dividend. But their market price is still growing upward, so the return of the company is not reflecting on market price.

Retained earning is treated as financing source of the company. If the company retains, earning it can increase its activities which result in profit maximization where as if the company distribute dividend it

has to raise additional capital from other sources. So the company can adopt different types of dividend policy according to its internal policy.

**Following are the major problems that have been analysis for the purpose of the study:**

1. What is the dividend procedure followed by sample banks?
2. Are DPS affected by Earning per share in the sample banks?
3. What is the Price earning ratio of the sample banks?
4. What is the Market value per share to Book value per share of the sample banks?
5. What is the Dividend yield ratio of the sample banks?
6. What is the relation between dividend and earning per share of the sample banks?
7. What is the relation between dividend and net profit of the sample banks?
8. What is the relation between dividend and market price of share of the sample banks?
9. What is the relation between dividend and book value of the share of the sample banks?
10. What is the relation between dividend and net worth of the sample banks?
11. Is there significant difference in EPS, DPS, PM and NW of HBL, EBL and NIBL?

#### **1.4 Objectives of Study**

The main objective of this study is to analysis the dividend policy practice followed by sample banks. The specific objectives are as follows:

- a) To study dividend procedure followed by the sample banks
- b) To identify whether DPS affected by EPS per share in sample banks.
- c) To identify price Earning ratio, market value per share to book value per share, Dividend yield ratio of sample banks
- d) To analyze the relationship between dividend per share with various important variables such as earning per share, net profit, net worth and Book value per shares.
- e) To analysis significant difference in EPS, DPS, PM and NW of HBL, EBL and NIBL.

#### **1.5 Significance of the Study**

People are attracted to invest in the share for the purpose of getting more and more returns. Therefore dividend policy should be effective to attract new investors and keep and present investors happy and maintain goodwill of the company. When any new company floats shares through capital market very big crowd gathers to apply for owner's certificate. It indicates people's expectation for higher return on the investment of share.

It may be useful to government for making policy, controlling, supervision and monitoring. It will be useful to the concerned people like share holders, management and policy makers.

This study will assist the policy makers to formulate their dividend regarding their company. They will be able to analyze the fluctuating dividend distribution in Nepal. This study will be matter of interest for the academicians, students and investors. They might be able to understand the current dividend related practice in Nepal. This research might shade light to the investors on where to invest. They might be able to identify the correct investment from all the investment opportunities in front of them.

### **1.6 Limitations of the Study**

There are limitation that weakens the generalization, e.g. inadequate coverage of industries, shortage of time, used and other variables. This study is simply a partial requirement of MBS programmed. So this study will be limited by following limitation :

- i) This study is mainly conducted on the basis of secondary data so the result depends on the secondary data.
- ii) The study period only cover five fiscal years from 2003\2004 to 2007\2008.
- iii) Only three joint venture banks are taken as sample due to insufficient time.
- iv) Cash and Stock dividend related data will be analysed and interpreted.
- v) There are many factor that effect dividend decision on and valuation of the firm. However only those factors related with dividend will be considered in the study.

### **1.7 Organization of the Study**

**The study has been divided into following:**

Chapter 1: Introduction

Chapter 2: Review of Literature

Chapter 3: Research Methodology

Chapter 4: Presentation and Analysis of Data

Chapter 5: Summary, Conclusion and Recommendations

Chapter first deals with the subject matter of the study which consists general background of study, Profile of sample companies, , statement of problems and the objective of the study, significant of the study and limitation of the study, org of the study Chapter second deals with the review of literature. It includes a discussion on the conceptual framework on dividend policy and review of previous studies like books, articles journals dissertations. Chapter third deals with research methodology used to evaluate dividend practices of sample banks in the Nepal .It deals with research design, population and sample, nature and source of data, data processing procedure, tools and techniques for analysis. Chapter four deals with the presentation and analysis of data collected from various sources. It also includes major findings of the study. Chapters five deals with Summary, Conclusion and Recommendations of the study and bibliography and appendixes are included at the end.



# CHAPTER-II

## REVIEW OF LITERATURE

### 2.1 Conceptual Framework

Dividend decision of the firm is yet another crucial area of financial management. The important aspect of dividend policy is to determine the amount of earnings to be distributed to shareholders and the amount to be retained in the firm. It is portion of the net earning dividend by the company among the shareholders as a return for their money invested. Dividends are distributed out of the profits; the alternative to the payment of dividends is the retention of earnings/ profits. The retained earnings constitute an easily accessible important source of financing the investment requirements of firms. The policy of a company on the division of its profits between distribution to shareholders as dividend and retention for its investment is known as dividend policy. All aspects and questions related to payment of dividend are contained in a dividend policy. Dividend policy determines the amount of earnings to be retained and paid out by the firm. "The dividend policy must be formulated with the basic objectives in mind-maximizing the wealth of the firm's owners and providing for the sufficient financing. These objectives are not mutually exclusive but rather interrelated, (Gitman 1994 ; 614)

(Generally, there are two types of shares: preference shares and equity shares. Dividend paid on preference shares is called preference dividend. Which are generally fixed and payable before payment of equity dividend? There is no choice to management for the preference dividend. But there is full choice about the rate of equity dividend. Dividend decision is the major decision of financial management; it is in the sense that the firm have to chosen between distribution profits to shareholders and sloughing them back into the business. The dividend decision is depends upon the objectives of the management for wealth of the shareholders and owners. Dividends are generally paid in cash because it is easy to paid shareholders. There is a reciprocal relationship between retained earnings and cash dividend: larger retention, lesser dividends; smaller retention larger dividends. Thus, the alternative uses of the net earnings, dividends and retained earnings are competitive and conflicting. "Financial management is therefore concerned with the activities of corporation that affect the well being of stockholders. That well-being can he partially measured by the dividends received, but the more accurate measure is the market value of stock. But stockholder usually thinks that the dividend yield is less than capital gain. "(Dean, 1973;630) The Dividend policy is the policy of a company uses to decide how much it will pay out to shareholders as dividends and how much to retain in the company from total profit. The important aspect of dividend policy is to determine the amount of earning to be distributed to shareholders and the amount to be retained in the firm. The financial manager must very care fully decide the allocation of earnings between dividends and retained earnings, looking external and internal environments of the company, as this decision affects the value of the firm and as a result , the firm. Cost of capital.

**There are two Arguments for Dividend**

Arguments for Dividends: that a high dividend payout is important for investors because dividends provide certainty about the company's financial well-being; dividends are also attractive for investors looking to secure current income. In addition, there are many examples of how the decrease and increase of a dividend distribution can affect the price of a security. Companies that have a long-standing history of stable dividend payouts would be negatively affected by lowering or omitting dividend distributions; these companies would be positively affected by increasing dividend payouts or making additional payouts of the same dividends. Furthermore, companies without a dividend history are generally viewed favorably when they declare new dividends.

Arguments against Dividends: Some financial analysts feel that the consideration of a dividend policy is irrelevant because investors have the ability to create "homemade" dividends. These analysts claim that this income is achieved by individuals adjusting their personal portfolios to reflect their own preferences. For example, investors looking for a steady stream of income are more likely to invest in bond (in which interest payments don't change), rather than a dividend-paying stock (in which value can fluctuate). Because their interest payments won't change, those who own bonds don't care about a particular company's dividend policy. The second arguments claims that little to no dividend payout is more favorable for investors. Supporters of this policy point out that taxation on a dividend are higher than on a capital gain. The argument against dividends is based on the belief that a firm that reinvests funds (rather than paying them out as dividends) will increase the value of the firm as a whole and consequently increase the market value of the stock. According to the proponents of the no dividend policy, a company's alternatives to paying out excess cash as dividends are the following: undertaking more projects, repurchasing the company's own shares, acquiring new companies and profitable assets, and reinvesting in financial assets. Using this approach, companies tend to view the debt/equity ratio as a long-term rather than a short-term goal. In today's markets, this approach is commonly used by companies that pay dividends. As these companies will generally experience business cycle fluctuations, they will generally have one set dividend, which is set as a relatively small portion of yearly income and can be easily maintained. On top of this set dividend, these companies will offer another extra dividend paid only when income exceeds general level.

### **2.1.1 Theories of Dividend**

There are different types of dividend theories have been advance in financial management; they are relevant or irrelevant in dividend decision. Among them some relevant and irrelevant theories have been discussed below.

#### **Residual Theory of Dividend**

Residual dividend policy is based on the premise that investors prefer to have a firm retain and reinvest earnings rather than pay them out in dividends if the rate of return the firm can earn on reinvested earnings exceeds the rate of return investors can obtain for themselves on the other investments of comparable risk. This theory states that profit should be used first in all profitable investment plans which reflect equal or higher rate of return. Further it is less expensive for the firm to use retained earnings than is to issue new common stock (Gautam and Thapa, 2004:9.5).

### **2.1.2 Forms of Dividends**

The usual practice is to pay dividends in cash. Different companies follow different types of dividend policy. Corporations need to follow different types of dividend due to the objectives and policies, which they implement. According to various circumstances and changing needs of corporations dividend is being distributed not only in cash but different forms of dividend they are; scrip dividend, stock dividend and property dividend. "The type of dividend that corporations follow is partly a matter of attitude of directors and partly a matter of the various circumstances and financial constraints that bound corporate plans and policies." (Shrestha, 1980;352). The forms of dividends are as follows:

#### **1. Cash Dividend**

When a dividend is distributed in cash to the shareholder out of the company is called cash dividend. "When cash dividend is paid both the total assets and the net worth of the company are reduced. The market price of the share drops in most cases by the amount of the cash dividend distributed." (Pandey, 1999 ;782) When cash dividend is paid the cash bank account and the total assets of the company is automatically reduced. So, the company needs to have enough cash and sufficient balance for the payment of cash dividend. If it does not have enough balance arrangement should be made to borrow fund, which is difficult to company.

#### **2. Stock Dividend**

Distribution of additional shares to the existing shareholder as dividend is known as a stock dividend. This has the effect of increasing the number of outstanding shares of the company. The shares are distributed proportionately. Firms pay stock dividend as replacement for a supplement to cash dividend. The declaration of the stock dividends will increase the paid-up share capital and the reserves and surplus of the company.

#### **3. Property Dividend**

When dividend is paid in terms of assets or property to the stockholders is higher than cash it said to be property dividend. Whenever the firms have assets that are no longer necessary in the operations of the business, this type of dividend may be used. For Examples Company's own products and the securities of subsidiaries that have been paid as property dividend.

#### **4. Scrip Dividend**

That type of dividend, which is paid in promissory notes, is called scrip dividend. In this method of dividend, company issues and distribute to the shareholders transferable [promissory notes which may interest be bearing or not. "Scrip dividends are those paid in the company's promises to pay instead of cash." Encyclopedia America, 1997) "Scrip dividends are justified only when the company has really earned profit and have only to wait for the conversion of other current assets into cash in the course of operation"(Gautam. 1998 ; 365).

### **2.1.3 Stability of Dividends**

A stable dividend policy is a long-term policy. It does not affect by variation in earning from year to year. The dividend will be regular. "Stability of dividends means regularity in paying dividend even though the amount of dividend may fluctuate from year to year, by stability we maintaining a position in relating to a dividend trend line, preferably one that are upward slopping." (Van Home, 1998 ;325;326). The shareholders generally prefer stability or regularity of dividends because the company distributes a stable dividend over the year the market price of the shares may be increased. It is suitable for those companies, which have got stable income. All other being the same stable dividend may have a positive impact on the market price of the share. We can define it in other words that is the term dividend stability refers to the consistency or lack of variability in the stream of dividends. There are three types of dividend stability are as following:

#### **(a) Constant Dividend per share**

Constant dividend per share means that the dividend can be fixed either in amount or in percentage. According to this form of stable dividend policy a company follows a policy of paying a certain fixed amount per share as dividend every year. In this policy the fluctuations in earnings would not affect the dividend payment. In fact, when a company follows such a dividend policy, it will pay dividends to the shareholders even when it suffers loss. This policy does not imply that the dividend per share or dividend paid will never be increased, when the company reaches new level of earnings and expects to maintain it, the annual dividend per share may be increased. If the increase is expected to be temporary, the annual dividend per share is not changed and remains at the existing level.

#### **(b) Constant Payout Ratio**

Another form of stable dividend policy is constant payout ratio. The ratio of dividend to earning is known as payout ratio. A stable dividend payout ratio implies that the percentage of earnings paid out each year is fixed. Some companies may follow a policy of constant payout ratio i.e. paying a fixed percentage of net earnings every year. It is policy the amount of dividend will fluctuate in direct proportion to earnings. This policy does not put any pressure on a company's liquidity since dividends are distributed only when the company has profits.

#### **(c) Low Constant Dividend per Share plus Extra Dividend**

This policy is a combination of small regular dividend and an extra dividend. The alternative to the combination of a small regular dividend and extra dividend is suitable for companies whose earnings fluctuate widely. Those firms use this policy, which have fluctuating earnings. With this method, a firm can regularly pay fixed, though small amount of dividend so that there is not risk of not being able to pay dividend to the shareholders. "This type of policy enables a company to pay constant amount of dividend regularly without a default and allows a great deal of flexibility for supplementing the income of shareholders only when the company's earnings are higher than the usual, without committing itself to make larger payment as a part of the future fixed dividend." (Pandey, 1999 ; 779,780)

## 2.2 Factors Influencing Dividend Policy

Many factors may affect a firm's decision about dividends; the company's decision regarding the amount of earnings to be distributed as dividends depends on a number of factors. Some of these factors are trying to mention below:

### 1) Legal Restriction

Firm corporations are bounded by certain legal constraints for the decision of dividend payment. The legal rules provide that dividends must be paid from earnings- either from the current year's earnings or from past year's earning as reflected in the balance sheet account retained earnings." Legal rules do not require a dividend declaration but they specify the rules under which dividends must not be paid. Such types of rules are as follows;

**The net profit rule:** It provides that dividends can be paid past and present earnings.

**The capital impairment rule:** It states that dividends cannot be paid out of invested capital.

**The insolvency rule:** It states that no dividends can be paid during insolvency (when liabilities exceed assets).

In this way legal rules are significant in that they provide the framework with in which dividend policies can be formulated.

### II) Liquidity Position

The cash or liquidity position of the firm affected its dividend policy. The payment of dividends means cash outflow. Although a firm may have adequate earnings to declare dividend, it may not have sufficient cash to pay dividends. The greater the cash position and overall liquidity of a company, the greater will be its ability to pay dividends. A mature company is generally liquid and it's able to pay large amount of dividends. On the other hand a growing firm faces the problem of liquidity. Even though it makes good profits, it need') funds for its expanding and permanent working capital, Because of in case insufficient cash or pressure on liquidity its management may not be able to declare high dividends.

### III) Borrowing Capacity of the Company

The financial condition or capability of a firm depends on its use of borrowing and interest charges payable. All firms do not have equal access to the capital markets, A large well established company with good profit and stability of earnings has easy access to capital markets with greater ability to borrow. On the other hand a small new and growing company is restricted from to raise equity and debt funds from capital markets because it is more risky for potential investors. Thus, a well-established company is likely to have a higher dividend payout ratio than a small new or growing company.

### IV) Control

Dividend policy may also be strongly influenced by shareholders or management control objectives. The objective of maintaining control over the company by the existing management group of the body of the shareholders can be an important variable in influencing the company's dividend policy. When a company pays large dividends, its cash position is affected. As a result, the will have to issue new shares

to raise funds to finance its investment programs. The control of the existing shareholders will be diluted if they do not want or cannot buy additional shares. Therefore as a result dividend ratio will be reduced.

#### **V) Inflation**

Inflation is another factor that the firm's dividend decision. In an indirect way inflation can act as a constraint on paying dividends. Depreciation is charged on the basis of original costs at which assets were acquired. As a result with rising prices, funds generated from depreciation may be inadequate to replace obsolete equipment. So, greater profit retention may be required for the companies in order to make replacement or to maintain the capital intact. This aspect becomes all the more important if the assets are to be replaced in the near future. Consequently, their dividend payout tends to be low during periods of inflation.

#### **VI) Stability of Earnings**

A firm that has stable earnings is often going to predict approximately what its future earnings will be. Such a firm is therefore more likely to pay a larger portion of its earnings in dividends than is a firm with fluctuating earnings.

#### **VII) Profit rate**

The rate of return on assets determines the attractiveness of paying out earnings in the form of dividends to stockholders or using them in the present enterprise.

#### **VIII) Need to repay debt**

The need to repay debt is also one of the factors that affected to the company in paying dividends. It influences the availability of cash flow to pay dividend. When a firm has sold debt to finance expansion or to substitute for other forms of financing, it is faced with two alternatives: a) It can refund the debt at maturity by replacing it with another form of security, b) It can make provisions for paying off the debt. If the decision is to retire the debt this will generally require the retention of earnings.

#### **IX) Rate of assets expansion**

A high rate of assets expansion creates a need to retain funds rather than to pay dividends. The more rapid the rate which the firm is growing the greater its needs for financing asset expansion.

#### **X) The tax position**

In addition, the tax position of the corporations affects its dividend policies- Possible penalties for excess accumulation of retained earnings may induce higher payout ratios.

### **2.3 Legal Provision Affecting Dividend Policy in Nepal.**

Legal Rules & Provisions are imposed to make corporate firms follow international accounting standard in maintaining accounts and distributing profits. Government policy, company Act, Central Bank's rules and regulations circulars issued from time to time and contractual restrictions govern not only the

amount of dividend that can be legally distributed but also on the procedural aspects of declaring dividend and dividend practices of corporate firms. These policies rules and regulations are subject to change to suit the state of condition in the corporate sector and country's economy. Certain legal restrictions has been imposed on the declaration of dividend, issue of bonus shares and repurchase of shares. Declaration of dividends is prohibited unless corporate firm is incorporated under company. Act or statute transfer necessary amount form net profit to reserves account as required by statutory provisions. Commercial Act 1972 [2031] section 18 [14<sup>th</sup> Amendment 2046] has prohibited the distribution of dividend unless the following conditions are met:

- ) Before writing off preliminary expenses.
- ) Before making provisions for previous year's losses.
- ) Before maintaining adequate [a] capital fund, [b] provision for loan loss and [c] reserve fund, 20% of the net profit should be appropriated till reserve fund reaches double of paid up capital.

Nepal company Act, 2006 [2062 B.S.] has made certain provision on dividend payment. Legal rules and provisions, which seem to affect dividend practices, are mentioned below:

**Section 179, subsection 1** allows distribution of bonus shares to shareholders from the distributable profits upon approval of special agenda in shareholder's annual general meeting. Subsections 2 require information to the concerned authority before issuing bonus shares.

**Section 182 of the Act** has defined distribution of the bonus shares within 45 days from the date of the decision made in annual general meeting except the following issues.

- a) In case any law forbids the distribution of dividends.
- b) In case any right to dividend is disputed.
- c) In case dividends can't be distributed within the limit mentioned above owing to circumstances beyond anyone's control and without any fault on the part of the company.

**Section 182, Subsection 3** states that payment of certain interest in case on nonpayment of the dividend within the specified time period.

**Section 182, subsection 4** states that dividend will be paid to the registered shareholders in the book of the company at the time of decision of the dividend or rights holders as per the law. Section 182, subsection 5 states that dividend can be paid to shareholders after deduction depreciation, payments/ provisions as per the law and all the loss of previous years. Dividend can be distributed without reserves or previsions as per the existing law.

**Section 182, subsection 7** allows board of directors to distribute interim dividend to its shareholders from the profit of earlier financial year in the following cases.

- a) Allows payment of dividend incase of provision in the memorandum of the company.
- b) The audited balance sheet approved by the board of directors for distribution of dividend of the specified year, dividend can be made to shareholders. Section 182, subsection 9 allows to transfer the uncollected divided within 5 years from the date of the decision at the annual general meeting to the account of investors same ranchman reserves.

## 2.4 Review of Major Studies

In this section served studies regarding dividend policy and practice carried out by financial experts and researches in international sector have been reviewed.

### 2.4.1 Walter's study

James E Walter (1996) has proposed a model for share valuation. According to him, the dividend policy of the firm affects the value of the share. His model supports that dividend are relevant. He argues that the choice of dividend policies almost always affect the value of an enterprise. The investment policy of a firm cannot be separated from its dividend policy; according to him both are interlinked which is just opposite to Modigliani and Miller approach. Water's model show clearly the importance of the relationship between the return on a firm's investment or its internal rate of return(r) and its cost capital or the required rate of return(r) in determining the dividend policy. As long as the internal rate greater than the cost of capital, the share price will be enhanced by retention and will vary inversely with dividend payout. In this way Walter's model is also known as "Optimal theory of dividend". The basic assumptions of the Walter's model are- as follow:

1. The firm finances all investment through retained earning. The external source of funds likes debt or new equity capitals are not used.
2. Firm's internal rate of return(r) and cost of capital (k) are constant.
3. All earnings are either distributed as dividend or reinvested infernally,
4. There is no change in values of earnings per share (L) and dividend per share (D), The value of E and D remain constant, although there may be changed in the model for determining the result.
5. The firm has a perpetual or infinite life.

Based on above assumptions, formula determining to find the market price per share is as follows:

$$P = \frac{Div}{k} + \frac{r \cdot EPS - Div}{k}$$

Or

$$P = \frac{Div + \frac{r \cdot EPS - Div}{k} \cdot k}{k}$$

Where,

P = Market price per share

Div = Dividend per share

EPS = Earning per share

r = Firms' internal rate of return

k = Firm's cost of capital or capitalization

Walter's model shows that there are three probable conditions of the firm for comparing the relationship between r and k.



**(i)  $r > k$  (Growth Firm)**

If the internal rate of return is greater than cost of capital, it is better to retain retained earnings. These firms are able to reinvest earnings at a rate ( $r$ ), which is higher than the rate expected by shareholders ( $k$ ). They will be maximizing the value per share if they follow a policy of retaining all earnings for internal investment. The market value per share increases the dividend in such a condition. The market value per share will be maximum at zero dividends.

**(ii)  $r = k$  (Normal Firm)**

If the internal rate of return is equal to cost of capital the dividend payout does not affect the value of share. Such an enterprise can be called as a Normal Firm. Whether the earnings are retained or distributed, it is a matter of indifference for a normal firm. The market price of share will remain constant for all dividend payout ratios from zero to 100. There is no optimum dividend policy for such firm. The market value per share is not affected by the payout ratio when  $r = k$ .

**(iii)  $r < k$  (Declining Firm)**

If the internal rate of return ( $r$ ) is less than cost of capital ( $k$ ), it indicates that the shareholders can earn a higher return by investing elsewhere. In such case for maximizing the value of shares dividend also should be maximized. By distributing the entire earnings as dividend, the value of the shares will be at optimum value. The dividend payout ratio would give an optimum dividend policy. The market value per share increases as payout ratio increases when  $r < k$ .

**2.4.2 Gordon's Study**

Myron Gordon (1962) develops one very popular model explicitly relating the market value of the firm to dividend policy. It is a model of stock valuation using the dividend capitalization approach. This model assumes that dividend per share determines the value of shares. So according to him the dividend policy of a firm affects its value even when the return on investment is equal to the capitalization rate ( $r = k$ ). This argument suggests that an increase in dividend payout ratio leads to an increase in the stock prices for the reason that investors consider the dividend yield less risky than the expected capital gain. What is available at present is preferable to what may be available in the future. That is to say current dividends are preferred to deferred dividends. The future is uncertain. The investors would naturally like to avoid uncertainty. So the current dividends are given more weight than expected future dividends by the investors. So the value per share increases if the dividend payout ratio is increasing. Gordon's model is known as the Growth Model. Gordon's Model is based on the following assumptions:

- i. The firm is an all equity firm, and it has no debt.
- ii. The only source of financing new investment is retained earnings. No external financing is available.
- iii. The internal rate of return ( $r$ ) and the cost of capital ( $k$ ) for the firm remain constant.
- iv. The firm and its stream of earnings are perpetual.
- v. Corporate taxes do not exist.
- vi. The retention ratio, ( $b$ ) once decided upon, is constant. Thus, the growth rate  $g = br$ , is constant.

vii. The cost of capital of the firm is greater than the growth rate (g) of the firm ( $k > g$ ) to get meaningful value.

Based on above assumptions the formula for finding out the market value per share, proposed by Gordon is given below:

$$P = \frac{E(1 - b)}{k - br}$$

Where,

P = price of share

E = Earnings per share

B = Retention ratio or percentage retained

(1 - b) = Dividend payout ratio i.e. percentage of earnings distributed as dividends.

k = Cost of capital or capitalization rate

br = Growth rate

#### **(a) $r > k$ (Growth Firm)**

In growth firm the share price tends to decline in correspondence with increase in payout ratio or decrease in retention ratio i.e. high dividends corresponding to earnings leads to decrease in share price are negatively correlated in case of growth firm.

#### **(b) $r = k$ (Normal Firm)**

The share value remains constant regardless of changes in dividend policies in the case of normal firms.

#### **(c) $r < k$ (Declining Firm)**

The share prices tend to rise in dividend payout ratio. It means dividend and stock prices are positively co-related in a declining firm.

### **2.4.3 Modigliani and Miller's Study**

Franco Modigliani and Merton Miller (1961) first propounded the major argument indicating that dividends are irrelevant in 1961. It is popularly known as M – M Approach. It is sometimes termed as "Dividend Irrelevance Model." In general, the argument supporting the irrelevance of dividend valuation is that dividend policy of the firm is a part of its financing decisions. As a part of the financing decision of the firm, the dividend policy of the firm is a residual decision and dividend are passive residual. According to Modigliani and Miller (M - M), under a perfect market situation, the dividend policy of a firm is irrelevant, as it does not affect the value of the firm. The dividend policy is irrelevant for valuation when the investment policy is given. The theory more states that the values are only determined by

earning power of the firm. As per MM theory the firm's value is independent of its dividend policy. The Modigliani and Miller approach of irrelevance dividend is based on the following critical assumptions.

1. The firms operate in perfect capital market where all investors are rational. Information is freely available to all. Securities are divisible. Perfect capital market also impules that no investor is large enough to affect the market price of shares.
2. There are no transaction costs. The securities can be purchased and sold without payment any commission or brokerage etc.
3. Taxes do not exist.
4. The firm has a fixed investment policy, which is not subject to change. This implies that the financing of new investment out of retained earning will not change the business risk complexion of the firm and therefore no change in the required rate of return.

M- M provides the profit support of their argument in the following manner:

**Step 1**

The market price of share in the beginning of the period is equal to the present value of dividend paid at the end of the period plus the market price of the share at the end of the period. Symbolically:

$$P_0 = \frac{D_1 \Gamma P_1}{1 \Gamma ke} \dots\dots\dots (i)$$

Where,

- P<sub>0</sub> = the prevailing market price of a share.
- D<sub>1</sub> = the dividend to be received at the end of period one.
- P<sub>1</sub> = the market price of a share al the end of period me.
- K<sub>e</sub> = the cost of equity capital.

**Step 2**

Assuming no external financing, the total capitalized value of the firm would be simply the number of shares (n) times the price of each share (P<sub>0</sub>). Thus, we have:

$$nP_0 = \frac{n(D_1 \Gamma P_1)}{1 \Gamma ke} \dots\dots\dots (ii)$$

Where,

N = Number of equity shares at zero period.

**Step 3**

Assume that the retained earning is not sufficient to finance the new investment needs of the finds. In that case issuing the new shares is the other alternative and n is the number of new shares issued at the end of year 1 at price of P<sub>1</sub>, equation no (ii) can be written as

$$nP_0 = \frac{nD_1 \Gamma n \Gamma \zeta D_1 Z n P_1}{1 \Gamma K e} \dots\dots\dots (iii)$$

Where,

n = No. of equity shares at the end of the years.

N = No. of shares at the beginning.

**Step 4**

The issuing of new stock is determined by the amount of investment in period I not financed by retained earning. The number of new shares can be finding out in following way.

$$\zeta nP_1 = I - (E - nD_1)$$

Or

$$\zeta nP_1 = I - E + nD_1 \dots\dots\dots (iv) \quad 1$$

Where,

$nP_1$  = The amount obtained the sale of new shares to finance Capital budget.

I = Total new investment required.

E = Earning of the firm during the period.

$nD_1$  = Total dividend paid.

$(E - nD_1)$  = Retained earning.

**Step 5**

If we substitute eqn. (iv) into eqn. (iii) we get eqn. (v).

$$nP_0 = \frac{nD_1 \Gamma (n \Gamma \zeta n) P_1 \Gamma I - E \Gamma n D_1}{1 \Gamma K e}$$

or

$$nP_0 = \frac{(n \Gamma \zeta n) P_1 \Gamma I - E}{1 \Gamma K e} \dots\dots\dots (v)$$

**Conclusion**

There is no any role of divided ( $D_1$ ) in eq. (v). So MM concludes that dividends do not count therefore divided policy is irrelevant and divided policy has no effect on the share price.

**2.4.4 Deepak Chawala and G. Srinivasan's Study**

Chawala and Srinivasan (1987) did the Impact of dividend and retention on share price. They took 18 chemicals and 13 sugar companies and estimated cross-sectional relationship for the years 1969 and 1973. The required data were collected from the official directory of Bombay stock exchange. They used two stage least square techniques for estimation.

1. To estimate a model to explain share price dividend and retained earnings relationship.
2. To test the dividend retained earnings hypothesis,
3. To examine the structural changes in the estimated relations over time.

To explain above-mentioned objectives, they used simultaneous equation model as developed by Friend and Puckett (1964). They used two stage least square techniques for estimation. They also used earnings price ratio instead of lagged price earnings ratio, i.e.,  $(P/E)_{t-1}$ . The model in its unspecified form was as follows.

### 1. Price function

$$P_t = f [D_t, R_t, (P/E)_{t-1}]$$

### 2. Dividend supply function

$$D_t = g \{E_t, D_{t-1}, (P/E)_{t-1}\}$$

### 3. Identity

$$E_t = D_t + R_t$$

Where,

P = Market price per share

D = Dividend per share.

R = Retained earning per share.

E = Earning per share.

$(P/E)$  = Deviation from the sample average of price earning's ratio.

T = Subscript for ratio.

From their result of two stage least square estimation, they found that in case of chemical industry the estimated coefficients had the correct sign and the coefficient of determination of all the equations were very high. Thus, it implies that the stock price and dividend supply variation can be explained by their independent variables. But in case of sugar industry they found that the sign for the retained earnings is negative in both years. So they left sugar industry for further analysis. For chemical industry, they observed that the coefficient of dividend was very high as compared to retained earnings. They also found that coefficient of dividend was significant at one percent level in both years. Whereas coefficient of retained earnings were significant at ten percent level in 1969 and at one percent level in 1973. Finally, they concluded that the dividend hypothesis holds good in the chemical industry. Both dividend and retained earnings significantly explain the variations in share price in chemical industry.

#### 2.4.5 Van Horne and Mc Donald's Study

Van Horne and Mc Donald (1971) conducted a more comprehensive study on dividend policy and new equity financing. The purpose of this study was to investigate the combined effect of dividend policy and new equity financing decision on the market value of the firm's common stocks. They are using a well-known valuation model, i.e. cross section regression model during the year-end 1968 performed the empirical test. The required data were collected from 86 electric utility firms included on the COMP STAT utility data tape and 39 firms in the electronics and electronic-component industries as listed on the COMP STAT industrial data tape. They tested two regression models for the utilities industries. First model was,

$$P_o/E_o = a_0 + a_1(g) + a_2(D_o/E_o) + a_3(Lev) + u^{16} \text{ (Ibid, 511)}$$

Where,

$P_o/E_o$  = Closing market price in 1968 dividend by average EPS for 1967 and 1968.

G = Expected growth rate measured by the compound annual rate of growth in assets per share for 1960 through 1968.

$D_o/E_o$  = Dividend payout, measured by cash dividend in 1968 dividend by earnings in 1968.

Lev = Financial risk, measured interest charges dividend by the difference of operating revenues and operating expenses.

U = Error term.

### **Second model was,**

Where,

$F_a, F_b, F_c,$  and  $F_d$  are dummy variables corresponding to "New Issue Ratio" (MIR) groups A through D.

It is noted that they had grouped the firms in five categories A, B, C, D, and E by MIR each year the value of dummy variables representing its MIR groups one and the value of remaining dummy variables are zero.

Again, the tested of following regression equation for electronics-electronic component industry is

$$P_o/E_o = a_0 + a_1(g) + a_2(D_o/E_o) + A_3(Lev) + a_4(OR) + u^{18} \text{ (Ibid, 516)}$$

Where,

Lev = Financial risk, measured by long term debt plus preferred stock dividend by net worth as of end of 1968.

Or = Operating risk, measured by the standard error for the regression of operating earnings per share on time for 1960 through 1968, and rest are as in first model above.

By using these models or methodology, they compared the result obtained for the firms, which both pay dividends and engage in new equity financing with other firms in an industry sample. They concluded that for electric utility firms in 1968, share value was not adversely affected by new equity financing in the presence of cash dividends, except for those in the highest new issue group and it made new equity a more costly, form of financing than the retention of earnings. They also indicate that the payment of dividends through excessive equity financing reduces share prices. For electronics electronic components industry, a significant relationship between new equity financing and value was not demonstrated.

### **2.4.6 Linter's Study**

Linter (1956) made an important study focusing on the behavioral aspect of dividend policy in the American context. He investigated a partial adjustment model as he tested the dividend patterns of 28 companies. He concluded that a major portion of the dividend of a firm could be expressed in the following way.

$$DIV_t = pEPSt \dots\dots\dots (1)$$

And,

$$DIV^*_t - DIV_{t-1} = a + b(DIV^*_t - DIV_t) + e_t \dots\dots\dots (2)$$

Or,

$$DIV^*_t - DIV_{t-1} = a + bDIV^*_t + (1-b) DIV_{t-1} + e_t \dots\dots\dots (3)$$

Where,

$DIV^*_t$  = Firm's desired payment.

$EPSt$  = Firm's earnings.

$P$  = Targeted payout ratio.

$a$  = It is constant relating to dividend growth.

$b$  = It is adjustment factor relating to the previous period's dividend and new desired level of dividends where  $b < 1$ .

The major findings of this study were as follows:

1. Firms generally think in terms of proportion of earnings to be paid out.
2. Investment requirements are not considered for modifying the pattern of dividend behaviors.
3. Firms generally have target payout ratios in view while determining change in dividend per share (or dividend rate)

#### 2.4.7 Mahapatra & Sahu's Study

R.P. Mahapatra & P.K. Sahu (1993) has conducted a study on "A note on determinants of corporate dividend behavior in India, an econometric analysis." The objectives of the study were as follows:

- To examine the relative significance of some Lintner's dividend models in Indian situation.
- To determine the determinants of corporate dividend behaviors using some regression models.

Around these objectives, the study covered the period from 1987 to 1989 taking the sample of 90 companies. After these, they used some known dividend models to solve and explain the problem. Those models were:

##### i. Lintner's Model.

$$D_t = a_0 + a_1 P_t = a_2 D_{t-1} + u_t$$

##### ii. Britain's cash flow model,

$$D_t = a_0 + a_1 C_t = a_2 D_{t-1} + U_t$$

### iii. Britain's Explicit Depreciation Model

$$D_t = a_0 + a_1 P_t + a_2 D_{t-1} + a_3 A_t + U_t$$

### iv. Darling's Model

$$D_t = a_0 + a_1 P_t + a_2 P_{t-1} + a_3 A_t + a_4 S_{t-2} + U_t$$

#### Definitions of terms used in these four models:

$D_t$  and  $D_{t-1}$  = Total equity dividend in period 't' and 't-1' respectively

$P_t$  and  $P_{t-1}$  = Net profit after tax in period 't' and 't-1' respectively

$C_t$  = Cash flow in period 't'

$A_t$  = Amount of depreciation in period 't'

$S_{t-2}$  = Changes in sales in a year over the preceding two years.

$U_t$  = Error term in the model.

$a_1, a_2, a_3,$  &  $a_4$  are regression parameters.

Amount for models used in this study Mahapatra and Sahu selected Britain's cash flow model as 'model of good fit.' By the help of this model, study success to examine the impact of the other more determinants of dividend policy. Those determinants were investment Demand, flow of net Debt, Interest, Liquidity, Behavior of share price and change in sales. This study concluded that dividend decision is primarily governed by cash flow and lagged dividend. Besides these, investment, flow of net debt and liquidity factor played the significant role in dividend decision.

#### 2.4.8 Holder, Langreher and Hexter's Study

M.E. Holder, F. W. Langrehr and J.L. Hexter (1998: 73 - 82) conducted a study on "Dividend policy Determinants: An investigation of the Influences of stockholder Theory" The main objectives of the study were to examine the influence of shareholders on firm's dividend policy and interaction between the dividend and firm's investment policies. They applied pooled cross sectional data analysis for the sample size of 477 firm's choosing 8 years (i.e. 1985 to 1990) data for 3816 observations and developed a following model.

$$DP_{it} = B_0 + B_1 FS_{it} + B_2 LSALES_{it} - B_3 INS_{it} + B_4 LCShR_{it} - B_5 FCF_{it} + B_6 CROW_{it} + B_7 STD_{it} + E_{it}.$$

Where,

$DP_{it}$  = Smoothed dividend payout ratio for the firm 'i' in year 't'

$FS_{it}$  = Measure of the focus of firm 'i' in year 't'

$INS_{it}$  = Residual of natural log of number of common shareholders from firm 'i' in year 't' regressed on LSALES.

$FCF_{it}$  = Free cash flow firm 'i' in year.

$GROWTH_{it}$  = Sales growth of firm 'i' in year 't' using five years.

$STD_{it}$  = Standard deviations of monthly returns of firm 'i' in year 't'



The major findings of the study are summarized below:

- Larger firms tend to have higher payout ratio they can pay higher dividends to shareholder.
- The coefficient of corporate focus of net organizational capital (NOC) is negative and statistically significant, indicating a negative influence on dividend payout ratio.
- Dividend payout ratios are lower for higher risk firms.
- Sales growth is correlated significantly to dividend payout ratios. However these are negatively correlated.
- Higher levels of free cash flow will have higher agency costs and need higher dividend to reduce those agency costs.
- Firms with a higher percentage of stock held by insider will have lower agency costs and lower dividend payout ratios.

## **2.5 Review of Journals and Articles in Nepalese perspective**

There are a few studies in Nepal, which have looked into corporate dividend behavior. Among them the three major studies are reviewed as follows.

### **Radhe Shyam Pradhan's Study (1993)**

**Pradhan** conducted the study on stock market behavior in the year 1992. This study was based on the data collected for 17 enterprises from 1986 to 1990.

The objectives of this study were as follows:

- i. To access the stock market behavior in Nepal.
- ii. To examine the relationship of market equity, market value to book value, price earnings and dividend with liquidity, profitability, leverage, assets turnover and interest coverage.

### **The Findings were as followings:**

1. Higher the earnings on stocks; larger the ratio of dividend per share to market price per share.
2. Dividend per share and market per share was positively correlated.
3. Positive relationship between the ratio dividend per share to market price per share and interest coverage.
4. Positive relationship between dividend payout and liquidity.
5. Positive relationship between dividend payout and profitability.
6. Positive relationship between dividend payout and turnover ratios.
7. Positive relationship between dividend payout and interest coverage.
8. Liquidity and leverage ratios are more variable for the stock paying lower dividends.
9. Earnings, assets turnover and interest coverage are more variable for the stock paying higher dividends.

### **Manohar Krishna Shrestha's Study (1992)**

"Shareholder's democracy and annual meeting feedback", which is written by Shrestha. This book deals with the policies and financial performance of some financial companies in Nepal. Shrestha presented a paper on the occasion of fifth annual meeting of Nepal Arab Bank Ltd. He opined that the shareholder's have common views on the problems and constraints of the shareholders, which are as follows:

1. The cost - push inflation at exorbitant rate has made the shareholders to expect higher return from their investment.
2. Multiple decreases in purchasing power of the Nepalese currency to the extent that higher return by way of dividend is just a natural economic consequence of it.
3. Erosion in the purchasing power of the income has made it clear that dividend payment must be directed to enhance shareholders purchasing power by raising dividend payout ratio on the basis of both earnings and cost theory.
4. Indo - Nepal trade and transit deadlock has become a sort of economic warfare putting rise in the cost of living index to a considerable extent. This is one of the reasons, which made shareholders to expect higher demand for satisfactory dividend.
5. The waiting of live years with peanut dividend in previous year is equally a strong enforceable reason of the bank's shareholders to expect handsome dividend already assured and committed in various report of the earlier annual general meeting.
6. One way to encourage risk - taking ability and performance is to have proper risk- return trade off by bank's management board in a way that higher return must be the investment rule for higher risk takers that comprise bank's shareholders.

Regarding these difficulties he requested the bank management board to rethink the matters relating to the payment of dividend. At the end of his paper, Shrestha opined that the bank is trying its best to satisfy both the shareholders and employees. As Shrestha report shows (Third general meeting of NGBL) some of the shareholders thought that bonus way. Rs. 2.85 million bonuses was paid to nearly 50 employees, but Rs. 3 million dividend to more than 500 shareholders which is not socially justified from income sharing perspective. On sixth annual meeting Dr. Shrestha's report bitterly criticized management board for neglecting shareholder's interest. He expressed that the dividend payout ratio is relatively lower than the seven years average growth rate of earnings.

### **K.D Manandhar's Study (1993)**

The main statement of the problem of the study is to set whether Nepalese firms consider the lagged earnings and dividend pay, the dividend in current year. To test this problem he has considered seventeen corporate companies as sample and set different hypothesis and drawn the following conclusion.

- 1) There is significant relationship between the change in dividend policy in terms of dividend per share and changed in lagged earnings. In overall, there is positive relationship between change in lagged consecutive earnings and dividend per share.
- 2) There is relationship between distributed lag profit and dividend.
- 3) When changed in lagged consecutive earning is greater than zero, in 65% the case

change in dividend per share.

- 4) Overall increase in earning per share has resulted to increase in the earning per share resulted decrease in dividend payment.
- 5) Nepalese corporate firms have followed the practice of maintaining constant dividend payment per share.

## 2.6 Review of Thesis

Many students have conducted research on dividend policy in Nepal. They are:

Timilsina (1997) conducted a study on "Dividend and stock Prices"

The objectives of his study are:

- To test the relationship between dividend per share and stock prices.
- To determine the impact of dividend policy on stock prices.
- To identify whether it is possible to increase the market value of the stock by changing the dividend policy.

The analysis is mainly based on different financial tools and simple regression model.

### He found that,

- The relationship between DPS and Stock Prices is positive in the sample companies.
- Dividend per share affects the share prices.
- Change in dividend policy or DPS might help to increase the market prices of shares.
- The relationship between Stock Prices and retained earnings per share is not prominent.

Gautam (1998) conducted a study titled "Dividend policy Comparative Study on Dividend policy on Grind lays Bank Ltd. Nepal Indosuez Bank Ltd. and Nepal Arab Bank Ltd." He took the data of three joint venture banks from 1992 through 1997.

This was a comparative study.

The objectives of his study are:

- To identify the type of dividend followed by the banks.
- To examine the impact of dividend on share price.
- To identify the relationship between DPS and other financial indicators.
- To know the uniformity among DPS, EPS and DPR of the simple cos.

The analysis is mainly basis on different financial tools, simple and multiple regressions.

Following are the conclusion of his study:

- No clearly defined divided policy is followed by the sample bank.
- The market of the share doesn't seem to be more or less dependent on EPS or DPS.
- No Significant relationship between DPS and other financial indicators.
- No uniformity in EPS but prominent difference in DPS and DPR.

Adhikari (1997) conducted a study on "Corporate dividend practices in Nepal" which has covered the period between 1990 and 1996 with the total observations of 17 firms in financial sector and 30 in Non - financial sectors.

The objectives of his study are:

- To examine the relationship between dividend and stock price.
- To analysis the proportion of portfolio forms on dividend
- To survey the opinion of financial executives on corporate divided practices.

**He founds that:**

Positive relationship between the ratio of dividend per share to book value per share and turnover ratios. There is a positive relationship between the ratio of dividend per share to book value per share and interest coverage. Market price of the share is affected by dividend. Stock with larger ratio of DPS to BVS has higher profitability.

Rajbhandari (2001) Conducted a study titled "Dividend Policy:

Comparatives study between banks and Insurance Companies." This study takes in to consideration data of only five years from 1994 / 95 through 1998 / 99 six companies are taken as sample.

The objectives of her study are:

- To examine the relationship between dividend and market price of the stock.
- To identify appropriate dividend policy followed by the banks and insurance companies.
- To analyze the relationship between dividend policy decision of banks and insurance companies

.

**She found that**

- There is no consistency in dividend payment is found in all sample institutions i.e. NGBL, NIBL, NABIL and EIC which seems to be paying average DPS Rs. 20 every year.
- None of the six sample institution has as clearly defined and appropriate dividend policy.
- The institutions don't seem to follow the optimal dividend policy of paying regular dividend as per the shareholder's expectation and interest.

Thapa (2003) conducted a study on "Dividend policy and practices, a comparative study between banks and insurance companies in Nepal." The data are collected from 1996 / 97 to 2000 / 01 of three Banks (NIBL, companies (united insurance company, Everest insurance company and premier insurance company), The objectives of his study are:

- To study the current practices of dividend policy in joint venture commercial banks and insurance companies.
- To examine the relationship between dividend and mark price of the stock.
- To analyze the relationship of financial indicators eg. DPS, EPS, DPR and P/E ratio.
- To analyze the relationship between dividend policy decision of banks and insurance companies.

The analysis is done on the basis of different financial tools, simple regression and correlation analysis.

**He found that**

- Amount the major decision of finance, then majority of respondents give the first importance in investing decision, second in financing and finally gave least importance for dividend decision.
- With respect to factors affecting dividend policy of banks and insurance companies of Nepal, most of the respondents gave first priority to current earning, second priority to liquidity and last priority to past dividend.
- Not a fixed and single policy is being adopted by the banks and insurance companies.
- Majority of the company paid the cash dividend.

Gurung (2003) conducted a study titled *"Dividend Policy of Nepalese listed companies: with reference to Commercial Banks."* The data are analyzed from 1996/97 to 2000/01 of four joint ventures banks i.e. Standard Chartered Bank Ltd, Himalayan Bank Ltd, Nepal Bangladesh Bank Ltd and Nabil Bank Ltd.

The objectives of her study are:

- To assess prevailing dividend policy adopted by listed companies under study.
- To study whether or not dividend influences the liquidity position and stock prices of selective companies.
- To examine whether there is significant difference between DPS, EPS and DPR of the selected Companies.
- To identify the relationship between dividend policy and other financial indicators.

**She found that**

- The rules and regulations that bind the companies to pay dividend is lacking. This has caused inconsistency and random walk of dividend payment, which is seen in case of NBBL and Nabil Bank.
- Out of four Banks, only SCBNL and HBL have paid dividend regularly and consistently whereas NBBL and Nabil have not paid dividend regularly.
- The dividend payment trend of these banks is highly fluctuating.

Shrestha (2004) conducted a study titled *"Dividend Policy and its Impact on Stock Price, an Empirical Analysis on Joint Venture Banks of Nepal"*. The data are collected for the year 1996/1997 to 2000/2001 in case of Nabil Bank, Standard Chartered Bank Nepal Ltd, Himalayan Bank Ltd and Nepal Investment Bank Ltd.

The objectives of which are as under:

- To examine and evaluate the dividend policy and its impact on stock price of joint venture banks of Nepal.
- To study dividend procedure followed by the joint venture banks in the context of Nepal.
- To find out the relationship of dividend with EPS, MPS, P/E ratio, D/P ratio of sample firm.

**He found that**

- There is not any consistency in dividend policy in the sample banks.
- The MPS is affected by the financial position and the dividend paid by the bank. In this regard, the MPS of the sample banks is seen if be fluctuated.

- Most of the Nepalese banks from the very past have not profit planning and investment strategy which was imbalanced the whole position of the banks.
- All the D/P ratio of the sample banks in many years are found more than the popular practice.

Gautam (2004) conducted by study titled "*Dividend Policy of Nepalese Financial Institutions.*" This study takes into consideration data of only five years from 1998 to 2002. Nine companies are taken as sample.

The Main objectives of her study are as follows;

- To study and compare various aspects of dividend policies of Banks, Insurance companies and finance companies in Nepal.
- To examine the relationship between dividend and share prices of stocks.
- To analyze the factors affecting the dividend policy decisions of Banks and finance companies.

The analysis is mainly done by using different tools and simple and multiple regression model.

**She concluded that:**

- The distribution of dividend had a positive impact on the market price of shares except for one bank (NIBL) where correlation shows a decrease in MPS with an increase dividend paid out.
- Changes in DPS affect the MPS of different companies differently.
- EPS and DPS are positively correlated in all the companies except for EIC where an increase in EPS leads to a decrease in DPS.
- The correlation coefficient is very high for six of nine company's indicators such as DPS and MPS. For example DPS is affected by EPS, CR and previous year's dividend in different parameters.

Bhadari (2005) conducted a study on "Dividend policy and its impact on shareholder's return & stock price in Nepal" which has covered the period of 1998 to 2003 with the total observation of 3 banks and 3 finance companies.

The main objectives of study are:

- To study the current practice of dividend policy in joint venture commercial banks and insurance companies.
- To examine the degree of relationship between the individual securities returns and market return.
- To examine the relationship between lagged dividend and market price of the stock.
- To provide some suggestion for the improvement of sample companies' dividend policy on the basis of finding.

The main conclusions of this study are:

- All the insurance companies have same range of dividend per share during the study period. Moreover, they had not paid dividend for the year ended 2002/03 because of the direction received from Insurance committee about their extended paid up capital.
- The trends of dividend distribution performance of all selected companies have been decreasing.
- There is a volatile practice about distribution of dividend in Nepalese listed companies. They are not adopting a fixed or defined dividend policy.

- Earning position positively related to the dividend decision.
- Liquidity position does not have same impact on dividend decision for all companies.
- The relationship between individual securities return and market return is positive but nominal in Banking and Insurance.

Guragain (2005) in his research work entitled "A Study of Dividend and its Impact on Stock Price of Nepalese Selected Commercial Banks." The data are collected from the year 1995 to 2003.

The main objectives of study are:

- To analyze the impact of dividend in bank's stock price.
- To find out the relationship of dividend with earning and market price of share observing their history over periods along with their degrees and significance.
- To provide effective suggestions based on the conclusion.

#### **He found that**

- There is high degree positive relationship between DPS and EPS in most of the banks as they are statically significant also.
- Relationship between MPS and DPS is found to be low degree positive in most of the banks but these are statistically insignificant.
- Level of consistency in dividend policy of the banks is very low.
- There is higher role of earning per share to change the dividend per share in most of the banks.

Dongol (2006) conducted a study title "Impact of Dividend Policy on Market price of Stock."

The main objectives of his study are:

- To find out the impact of dividend policy on market price or stock.
- To find out if there is any uniformity in DPS, MPS, EPS and DPR of the sample firms.
- To study the prevailing policies and practices regarding dividend in Nepalese firms with reference to the sample firms.
- To find the major factors affective dividend policy of the firm.

#### **He found that**

- EPS of all the sample banks are fluctuating form year to year.
- None of the sample firms have exactly increasing or decreasing trend of MPS through out the study period.
- The concern about maintaining or increasing the stock price 0 level also influences the dividend policy of the firm and hence that may make impact upon market price of stock.

Shrestha (2007) in his research work entitled "An Analytical Study of Dividend Policy and practices of Major Joint Venture Banks in Nepal" the data are collected for the year 2055/056 to 2061/062.

The main objectives of his study are:

- To highlight dividend practices of the joint venture banks.
- To analyze the relationship between dividends per share, other financial indicators such as earning per share, P/E ratio, market price of stock and net worth etc.

iii) To examine whether or not dividend influences share price of the three joint venture commercial banks.

**He concluded that**

- There is no individual relationship exist between dividends per share to stock price.
- The correlation between them is also weak and dividend doesn't direct influence the market price.
- It is expected that the performance of the banking sector will be grow further in further due to low interest on the deposits.

**Research Gap**

Though, the above mentioned studies are related to dividend behavior and practices in Nepalese context. Thus study covers the data till 2004. Since Nepalese economic development is highly affected by various internal and external factors; there may be some changes taken place in the last year i.e. 2007/08. It has now become necessary to carry out a fresh study related to dividend pattern in Nepalese companies. This study has tried to analyze the latest data. (i.e. till 2007/2008) of the sample banks. In previous study researcher only conclude cash dividend paid by the company to share holder but in this study cash as well as stock dividend concluded for reflecting the true trend of dividend policy that was adopted in Nepal by most of commercial bank.



# **CHAPTER –III**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

The chapter is related to the RM employed in the entire aspect of the study. Research methodology refers to the various sequential steps to be adopted by the researchers in studying the problem with certain objectives in views. It is the process of arriving to the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of the facts and figures. It consists of research design, population and sampled source of data, data processing procedure and tools and techniques of data analysis.

### **3.2 Research Design**

Research Design is plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances (Kothari, 1994:43). Research design is plan for collection and analysis of data. It represents a series of guideposts enable the researcher to progress in the right direction in order to achieve the goal. The purpose of design is to provide answer to research questions and control variance. Some financial and statically tools will be used to examine the facts and descriptive techniques to evaluate the dividend policy of three sample banks and comparing between themselves. This study aims to find out the relation of Dividend policy of three samples companies.

### **3.3 Population and Sample**

There are 25 banks whose shares are traded actively in stock market. Which are consider to be the population of the study, but it is not possible to study all of them regarding the study topic. Only following three banks are selected as sample. They are

- a. Himalayan Bank Limited
- b. Everest Bank Limited
- c. Nepal Investment Bank

### **3.4 Nature and Sources of Data**

The study is mainly based on secondary data. Data relating to Dividend policy of these three banks are directly obtained from concerned banks. Mainly the study is conducted on the basis of secondary data. . The supplementary data and information are obtained from annual report and website of NEPSE, SEBON. Other information sources have been tapped from number of institutions and regulating authorities like Rastra Bank, Security Exchange Board, Ministry of Finance and National Planning commission etc

### 3.5 Data Processing Procedure

The data analysis tools are applied as simple as possible. Data obtained from the various sources cannot directly be used in their original form. They need to further verified and simplified for the purpose of analysis. Data, information, figures and facts so obtained need to be checked, rechecked, edited and tabulated for computation. According to the nature of data, they have been inserted in meaningful Tables, which have been shown in appendices. Homogeneous data have been sorted in one Table and similarly various Tables have been prepared in understandable manner, odd data are excluded from the Table. Data have been analyzed and interpreted using financial and statistical tools. The detail calculations that cannot be shown in the body part of the report are presented in appendices at the end of the report.

### 3.6 Method of Analysis

Various financial and statistical tools have been used in this study. The analysis of data will be done according to pattern of data available. Financial tools and simple regression analysis are used in the analysis. The relationship between different variables related to study topic would be drawn out using financial and statistical tools. The various calculated results obtained through financial and statistical tools are tabulated under different headings, they are compared with each other to interpret the result.

### 3.7 Financial Tools

#### a) Earning Per share (EPS)

EPS calculations made over the years indicate whether the banks earning power on per share basis have changed over the period or not. EPS is calculated by dividing the net profit after taxes by the total no. of the common shares outstanding.

$$EPS = \frac{\text{Net ofit after taxes}}{\text{No of Common Shares ousting}}$$

#### b) Dividend Per share (DPS)

DPS indicates the part of earning distributed to the shareholders on per share basis. It is calculated by dividing the total dividend to equity shareholders by the total no. of equity shares.

$$DPS = \frac{\text{Total dividendo OrdinaryShareholders}}{\text{No of OrdinarySharesouts ding}}$$

#### c) Dividend payout Ratio (DPR)

This shows that what percentage of the profit is distributed as dividend and what percentage is retained as reserve and surplus for growth of the banks. It is calculate by the dividing the DPS by the EPS.

$$DPR = \frac{DPS}{EPS}$$

#### **d) Price Earning Ratio**

This reflects the price currently paid by the market for each rupee of currently reported earning per share (EPS). It is calculated by dividing the market value per share (MVPS) by earning per share (EPS).

$$P/E \text{ ratio} = \frac{\text{Market value per share MVPS}}{\text{Earning Per share EPS}}$$

#### **e) Dividend yield**

The dividend yield reflects the percentage relationship between dividend per share and market value per share. It is calculated by dividing the cash dividends per share (DPS) by the market value per share (MVPS).

$$\text{Dividend yield} = \frac{\text{Dividend per share DPS}}{\text{Market value per share MVPS}}$$

#### **f) Market Value per share to book value per share ratio**

This ratio indicates the price the market is paying for the price that is reported from the net worth of the banks, or in other words, it is the price of the outsiders are paying for each rupee reported by the balance sheet of the banks. It is calculate by dividing the market Value Per Share (MVPS) by the Book Value Per Share (BVPS).

$$\text{Market value per share to Book value per share} = \frac{\text{Market value per share MVPS}}{\text{Book value per share BVPS}}$$

#### **g) Return on Net Worth**

Net worth refers to the owner's claim in the assets of a bank. It can be found by subtracting total liabilities from the total assets (excluding intangible assets accumulated losses). This ratio indicates how well the banks used the resource of the owners. It is calculated by dividing net profit after taxes by net worth. The formula is used as follows.

$$\text{Return on net worth} = \frac{\text{Net Profit}}{\text{Net Worth}}$$

### **3.8 Statistical Tools Used**

A brief explanation of statistical tools used in this study is as follows:

#### **a) Simple Regression Analysis**

In this study simple regression analysis has been used to study the influence of independent variables on dependent variables. It helps in studying the effect and the magnitude of the effect of single

independent variables on dependent variables. To determine whether the variable of earning per share is related to dividend decision, the following regression model has been applied.

$$Y = a + bX_1$$

Where,

Y = Dividend Value

a = Intercept

X<sub>1</sub> = Earning per share

b = Slope variable or relation

This model has been applied to examine the relationship between the EPS and DPS of the companies in the current fiscal six years from (2003 / 04 to 2007 / 2008). Similarly the following regression has been applied to determine whether the variable to net profit, average market price of share, and net worth of the company is related to dividend per share.

Where,

Y = Dividend per share

X<sub>2</sub> = Net profits of the company

$$Y = a + bX_3$$

Where,

Y = Market price per share (closing)

X<sub>3</sub> = Dividend per share

$$Y = a + bX_4$$

Where,

Y = Net worth of the company

X<sub>4</sub> = Dividend per share

Hence, in obtaining the regression line, we follow the approach that the some of squared deviation be minimum and on this basis work out the values of its constant viz 'a' and 'b' or that is unknown as the intercept and the relation. To determine the values of 'a' and 'b'; the following two normal equations are to be solved simultaneously.

$$y = na + b x$$

$$xy = a x + b x^2$$

Where,

'a' and 'b' are unknown.

n = Number of observation in the simple.

## **b) Standard Deviation ( )**

Karl Pearson introduced the standard deviations concept in 1823. It is by far most important and widely used measure of studying dispersion. Standard deviation is also known as root mean square deviation for the reason that is the square root means of the squared deviations from the arithmetic mean, it is denoted by the small Greek letter sigma. "The standard deviation measures the absolute dispersion or variability of the distribution; for the greater the amount of dispersion or variability the greater the standard deviations, for the greater will be the magnitude of the deviation of the values from their

mean. A small standard deviation means a high degree of uniformity of the observation as well as Homogeneity of a series; a large standard deviation means just the opposite." (Gupta; 1991) In this, standard deviation is calculated for selected dependent and independent variables specified in the model presented above.

$$\text{Standard deviation (} \sigma_x) = \sqrt{\frac{\sum x^2}{n} - \left(\frac{\sum x}{n}\right)^2}$$

$$\text{Standard deviation (} \sigma_y) = \sqrt{\frac{\sum y^2}{n} - \left(\frac{\sum y}{n}\right)^2}$$

### c) Coefficient Of Correlations (r)

The correlation of coefficient measures the direction of relationship between two sets of figures. It is the square root of the coefficient of determination. "Correlation Analysis is then statistical tool that can be used to describe the degree to which one variable is linearly related to another." [Levin and Rubin, 1995] Correlation can either be positive or it can be negative. If both variables are changing in the same direction, then correlation is said to be positive but when the variations to the two variables take place in the opposite direction, the correlation is termed as negative. In this study, simple coefficient of correlation is used to determine the relationship of different factors with dividend and other variables. The data related to dividend over different years are tabulated and their relationship with each other is drawn out.

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}}$$

Where,

- n = number of observation in series X and Y
- $\sum X$  = Sum of observations in series X
- $\sum Y$  = Sum of observation in series Y
- $\sum X^2$  = Sum of squared observations in series X
- $\sum Y^2$  = Sum of squared observations in series Y
- $\sum XY$  = Sum of the product of observations in series X and Y

The result of correlation coefficient is always lies between -1 & +1

When,  $r = +1$ , there is positively perfect correlation between two variables

When,  $r = -1$ , there is negatively perfect correlation between two variables

When,  $r = 0$ , there is no correlation between two variables or the variables are uncorrelated.

Neither the value of r to +1, closer will be relationship between two variables nor will the value of r to 0 lesser be the relationship between two variables.

#### **d) Coefficient of Determination (r<sup>2</sup>)**

One very convenient and useful way of interpreting the value of coefficient of correlation between two variables is to use square of coefficient of correlation, which is called coefficient of determination. One of which happens to be independent and other being dependent variables. Symbolically it is called r<sup>2</sup>. In other words r<sup>2</sup> measures the percentage total variation in dependent variable explained by independent variable's the coefficient of determination can have value ranging from 0 to 1. If r<sup>2</sup> is equal to 0.85 that indicates independent variables used in regression model explained 85% of the total variation in the dependent variable. A value of one can occur only if the unexplained variation is zero, which simply means that all the data points in the scattered diagram fall exactly on the regression line. In this study r<sup>2</sup> is calculate for the model prescribed above.

#### **Standard Error of Estimates (S.E.E.)**

With the help of regression equation, perfect prediction is practically impossible. Standard Error of Estimate is the measure of reliability of the estimating equation, indicating the variability of the observed points around the regression line, that is the extent to which observed values differs from their predicated values on the regression line. The smaller the value of the standard error of estimate, the closer will be the predicted dots to the regression line. If SEE is zero, than there is no variation about the line and the correlation will be perfect. Thus with the help of SEE, it is possible to ascertain how well and representative the regression line is as description of the average relationship between two variables.

$$S E = \frac{\dagger y \sqrt{1 - r^2}}{\dagger x \sqrt{n}}$$

#### **t- Statistics**

To test the validity of our assumption, if sample size is less than 30 t-tests is used. For applying t-test, when sample size is small, the t value is calculated first and compared with the table value of "t" at a certain level of significance for given degree of freedom. If the calculated value of "t" exceeds the table value (say t 0.05), we infer that the difference is significant at 5% level but if 't' is less than the table value of the 't' the difference is not treated as significant. In this research work, t-value is calculated between earning per share and dividend per share, net profit and dividend per share, dividend per share and market per share and dividend per share and net worth.

#### **F-Test**

F-Test is used to examine the significance of the differences between more than two samples mean at one and same time .The F-Test enables us to test for the significance of the differences between more than two sample means. This technique can be used to conclude whether the regression equation provides significant result or not.

# CHAPTER IV

## PRESENTATION AND ANALYSIS OF DATA

This Chapter has been divided into two main sections. The first section deals with presentation and analysis of data collected from various sources and second deals with major finding of the study.

### 4.1 Analysis of financial Indicator Variables

#### Earning per share

Normally the performance and the achievement of business organization are measured in terms of its capacity to generate earning. Higher earning shows higher strength while lower earning shows weaker strength of business organization because the earning of any organization helps so far its growth, expansion and diversification.

The following table shows the Earning per Share of three Banks

**Table 4.1**  
Earning per share of HBL, EBL and NIBL

YEAR	EPS OF HBL	EPS OF EBL	EPS OF NIBL	AVG MEAN
2003/04	49.05	45.6	51.6	48.75
2004/05	47.91	54.2	39.5	47.2
2005/06	59.24	62.8	59.35	60.46
2006/07	60.66	78.4	62.57	67.21
2007/08	62.74	91.82	57.87	70.81
AVERAGE	55.92	66.546	54.178	
S.D	6	17	8.15	
C.V	10.73%	25.54%	15.04%	

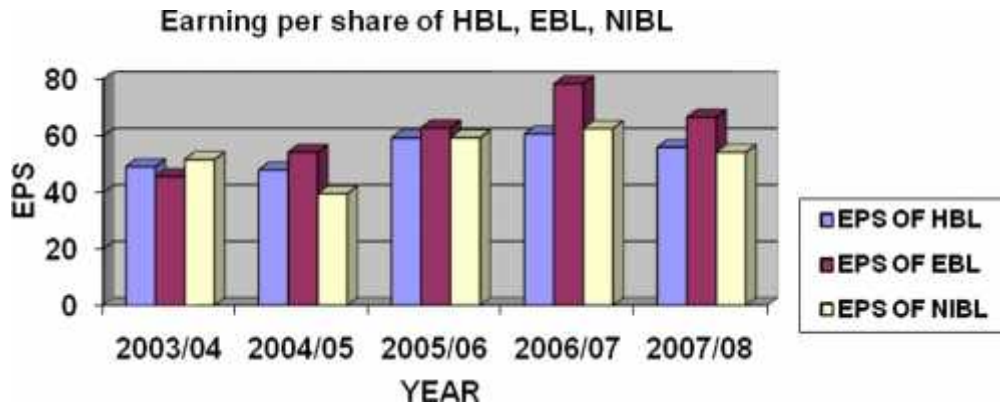
*(Source: Annual report of HBL, EBL & NIBL)*

EPS of HBL, EBL and NIBL for the fiscal year (2003/04 to 2007/08) are presented in above table. In year 2003/04 HBL,EBL and NIBL has EPS is Rs 49.05, Rs 45.6 and Rs Rs 51.60 respectively. In this year NIBL has higher EPS than other two Bank. Average mean of this year is Rs 48.75. HBL and NIBL maintain this average, but EBL is under the average. In Fiscal year(2004/05) 04 HBL,EBL and NIBL has EPS is 47.91, 54.2 and 39.50 respectively, there is decrease in EPS of HBL and NIBL, This Year EBL has higher EPS. Average mean of this year is Rs 47.20. HBL and EBL maintain this average, but NIBL is under the average. In Fiscal year(2005/06) HBL ,EBL and NIBL has EPS is 59.24, 62.8 and 59.35 respectively, there is incensement in EPS of three sample bank than previous year. EBL has higher EPS . Average mean of this year is Rs 60.46. EBL maintain this average, but HBL and NIBL is under the average.. In Fiscal year(2006/07) HBL,EBL and

NIBL has EPS is 60.66, 78.4 and 62.57 respectively, there is incensement in EPS of three sample bank than previous year. EBL has higher EPS. Average mean of this year is Rs 67.21. EBL maintain this average, but HBL and NIBL is under the average.. In Fiscal year(2007/08) HBL,EBL and NIBL has EPS is 62.74 ,91.82 and 57.87 respectively, there is incensement in EPS of two sample bank than previous year. EBL has higher EPS. Average mean of this year is Rs 70.81. EBL maintain this average, but HBL and NIBL is under the average. From the above table it is clear that EBL has higher

Average earning per share comparison with HBL and NIBL in all year. EBL EPS trend is in increasing order. HBL EPS trend is in increasing order except Fiscal year(2004/05) and NIBL EPS trend is in fluctuating order. HBL was not able to maintain average earning per share for three financial years. EBL was not able to maintain average earning per share for three fiscal years and NIBL was not able to maintain average earning per share for two fiscal years. EBL has higher C.V (25.54) which shows that there is less uniformity consistency than other two banks. NIBL has higher C.V (25.54) than HBL which show that there is less uniformity consistency than HBL. HBL has lower C.V (10.73%) which shows that there is more uniformity consistency than other two banks.

**Figure No 4.1**



**Divi**

**Dividend Per Share.**

DPS indicates the part of earning distributed to the shareholders on per share basis. It is calculated by dividing the total dividend to equity shareholders by the total no. of equity shares. The following table shows total dividend paid to shareholders of three sample banks.

**Table 4.2**



### Dividend per Share of HBL, EBL and NIBL

YEAR	DIVIDEND OF HBL			DIVIDEND OF EBL			DIVIDEND OF NIBL			AVG MEAN
	CASH	STOCK	TOTAL	CASH	STOCK	TOTAL	CASH	STOCK	TOTAL	
<b>2003/04</b>		20	20	20	20	40	15	0	15	18.33
<b>2004/05</b>	11.58	20	31.58	31.58	0	31.58	12.5	0	12.5	21.36
<b>2005/06</b>	30	5	35	35	25	60	20	34.46	54.46	38.46
<b>2006/07</b>	15	25	40	40	10	50	5	25	30	36.6
<b>2007/08</b>	25	20	45	45	20	65	7.5	33.33	40.83	45.27
<b>AVG</b>	34.316			31			30.758			
<b>S.D</b>	8.48			12			16.086			
<b>C.V</b>	24.71%			38.70%			52.27%			
<b>G</b>	22.50%			25.70%			28.45%			

*(Source: Annual report of HBL, EBL & NIBL and Appendix)*

It is important at this stage to look over the relevant data on dividend for the purpose of analysis. The investigation of three banks in five years takes for study, From above data of total dividend per share of five years. It is found increasing order in HBL and EBL and fluctuating order in NIBL. However, average total dividend per share of HBL is Rs.34.316. Average total dividend per share of EBL is Rs.31 and average total dividend per share of NIBL is Rs.30.758. It shows that dividend per share of HBL is higher than EBL and NIBL. Table 4.2 shows that in the fiscal year 2003/04, HBL has distributed Rs 20 as a total dividend, HBL paid only cash dividend. In the fiscal year 2004/05 HBL has distributed Rs. 31.58 as a total dividend. This is Rs11.58 greater than previous year. During the year 2005/06, Total Dividend per share of HBL, was Rs. 35. This is Rs3.42 greater than previous year. In the fiscal year 2006/07 HBL has distributed Rs.40 as a total dividend. This is Rs5 greater than previous year. In the fiscal year 2007/08 HBL has distributed Rs 45 as a total dividend. This is Rs5 greater than previous year. HBL was not able to maintain average earning per share for three fiscal years. Above figure of HBL clearly shows that the total dividend per share is increasing continuously. If HBL had followed the stable dividend policy, growth rate of every year should have 22.5%in the past five year's i.e. 2003/04 to 2007/08. The following table shows the amount of dividend based on the growth rate and actual amount of dividend paid.

**Table 4.2.1****Dividend based on Growth rate and Actual dividend paid of HBL**

YEAR	ACTUAL DIVIDEND PAID	DIVIDEND PAID ABLE BASED ON GROWTH RATE	DIFFERENCE
2003/04	20	20	0
2004/05	31.58	24.5	7.08
2005/06	35	30.0125	4.9875
2006/07	40	36.88	3.12
2007/08	45	45	0

*(For detail calculation see appendix B2)*

The computed growth rate (22.5) percent is not followed by the bank in the past five year's period for payment of dividend. Positive difference shows more dividends paid than growth rate. It shows that HBL paid more than growth rate. Table 4.2 shows that in the fiscal year 2003/04, EBL has distributed Rs 20 as a total dividend, EBL paid only cash dividend. In the fiscal year 2004/05 EBL has distributed Rs 31.58 as a total dividend this time EBL only paid stock dividend. During the year 2005/06, EBL has distributed Rs 35 as a total dividend this time EBL only paid cash dividend. In the fiscal year 2006/07 EBL has distributed Rs.40 as a total dividend. In the fiscal year 2007/08 EBL has distributed Rs 45 as a dividend. EBL was not able to maintain average dividend per share for three fiscal years. Above figure of EBL clearly shows that the dividend per share is increasing continuously expect fiscal year 2004/05. If EBL had followed the stable dividend policy, growth rate of every year should have 25.7% in the past five year's i.e. 2003/04 to 2007/08. The following table shows the amount of dividend based on the growth rate and actual amount of dividend paid

**Table 4.2.2****Dividend based on Growth rate and Actual dividend paid of EBL**

YEAR	ACTUAL DIVIDEND PAID	DIVIDEND PAID ABLE BASED ON GROWTH RATE	DIFFERENCE
2003/04	20	20	0
2004/05	20	25.14	-5.14
2005/06	25	31.6	-6.6
2006/07	40	39.72	.28
2007/08	50	50	0

*(For detail calculations see Appendix C2)*

The computed growth rate (25.7) percent is not followed by the bank in the past five year"s period for payment of dividend .Negative difference show few dividends paid than growth rate. It shows that EBL has neither followed the system of paying stable dividend nor constant payout. Table 4.2 shows that in the fiscal year 2003/04 NIBL has distributed Rs. 15 as a total dividend. This year NIBL only paid cash dividend. In the fiscal year 2004/05 NIBL has distributed Rs.12.5 as a total dividend. This year also bank paid cash dividend. During the year 2005/06, total dividend per share of NIBL, was Rs.55.46. In the fiscal year 2006/07 NIBL has distributed Rs.30 as a total dividend. In the fiscal year 2007/08 NIBL has distributed Rs 40.83 as a total dividend. NIBL was not able to maintain average earning per share for three fiscal years. Above figure of NIBL clearly shows that the dividend per share is fluctuating decreasing and increasing continuously If NIBL had followed the stable dividend policy, growth rate of every year should have 28.45%in the past five year's i.e. 2003/04 to 2007/08. The following table shows the amount of dividend based on the growth rate and actual amount of dividend paid

**Table 4.2.3**

**Dividend based on Growth rate and Actual dividend paid of NIBL**

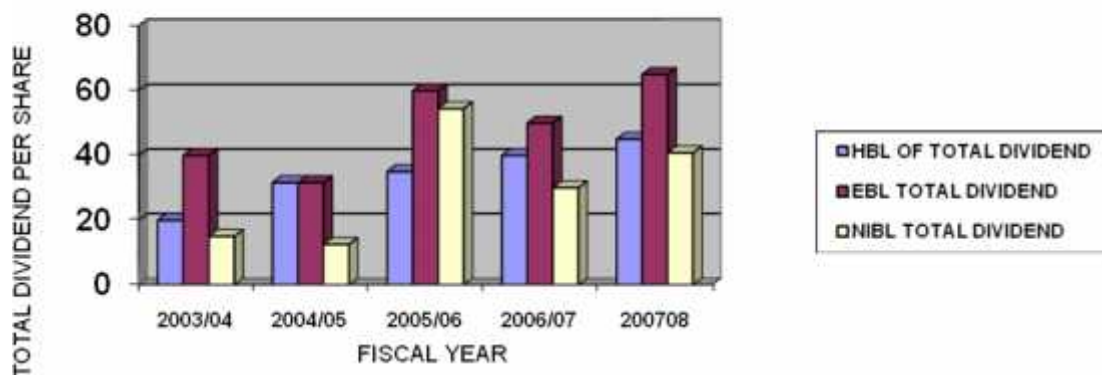
<b>YEAR</b>	<b>ACTUAL DIVIDEND PAID</b>	<b>DIVIDEND PAID ABLE BASED ON GROWTH RATE</b>	<b>DIFFERENCE</b>
<b>2003/04</b>	15	15	0
<b>2004/05</b>	12.5	19.27	-6.77
<b>2005/06</b>	55.46	24.75	30.71
<b>2006/07</b>	30	31.79	-1.79
<b>2007/08</b>	40.83	40.83	0

*(For detail Calculation sees Appendix D2)*

The computed growth rate (28.45) percent is not followed by the bank in the past five year"s period for payment of dividend. It shows that NIBL has neither followed the system of paying stable dividend nor constant payout. In conclusion, they are paying regular dividend but due to lack of sustainable strategic dividend policy, the dividend payment policy of these banks is not clear. However in aggregate term average total dividend per share paid by HBL is higher than EBL and NIBL .Higher dividend per share creates positive attitude of the Shareholders towards the bank which consequently helps to increase market value of the shares. It is the indicators of better performance of the banks management. NIBL has higher c.v (52.27%) than other two banks which indicate that bank has less uniformity consistency in DPS than other two banks. EBL has higher c.v (38.707%) than HBL which indicate that bank has less uniformity consistency in DPS than HBL.HBL has lower c.v (24.71%) than EBL and NIBL which indicate that bank has more uniformity consistency in DPS than EBL and NIBL.

**Figure No 4.2**

**TOTAL DIVIDEND PER SHARE OF HBL, EBL AND NIBL**



**Dividend Payout Ratio**

Earning determines the amount of dividend. The greater the earning was more ability of banks to pay dividend. This ratio expresses the amount of dividend as a percentage of earning available for equity shares after meeting all charges. The following table shows the dividend payout ratio of two banks from 2003/04 to 2007/08.

**Table 4.3**

**Dividend Payout Ratio**

YEAR	HBL	EBL	NIBL
<b>2003/04</b>	40.77%	43.86%	29.01%
<b>2004/05</b>	65.91%	36.90%	31.64%
<b>205/06</b>	59.087%	39.81%	93.44%
<b>2006/07</b>	65.94%	51.021%	47.95%
<b>2007/08</b>	71.72%	54.45%	70.55%
<b>AVEGARE</b>	60.6854%	45.2082%	54.592%

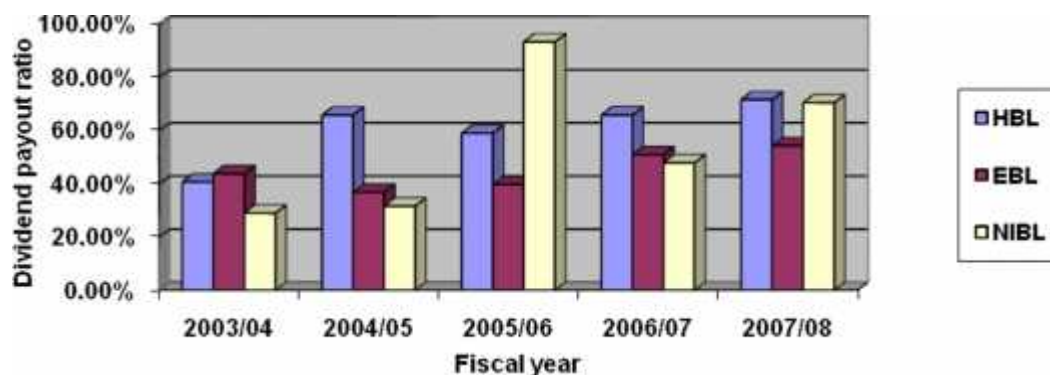
*(For detail calculation see appendix B3, C3 & D3)*

Above table depicts the average yearly dividend payout ratio of HBL (60.6854 %) is higher than that of EBL (45.2082 %) and of NIBL (54.592 %). Highest percentage of dividend payout ratio of NIBL is 93.44 % in the year 2005/06, 71.72% of HBL in the year 2007/08. HBL did not distribute cash dividend to its shareholder in the fiscal year 2003/04. EBL didn't distribute cash dividend to its shareholder in fiscal year 2004/05 and 2005/06. NIBL has distributed cash dividend to its shareholder at all years but it wasn't able to maintain its average dividend payout ratio from 2003/04, 2004/05 and 2006/07 whereas HBL wasn't able to maintain its average dividend payout ratio in 2003/04 and 2005/06 and EBL wasn't able to maintain its average payout ratio in the year 2003/04 to 2005/06. Above table shows that dividend

payout ratio of HBL is higher than that of EBL and NIBL. On the basis of dividend payout policy, it is clear that all three banks were paying good dividend but not able to follow any appreciate dividend payout ratio. Thus it is necessary to have a appreciate policy for dividend distribution of the banks have to know about how much portion of its earning is to be retained for internal financing and how much amount is to be allocated for distribution of dividend to shareholders. So it will be balance between company's growth and shareholders interest.

**Figure No 4.3**

**Dividend payout ratio of HBL, EBL, And NIBL**



#### Price Earning Ratio

This reflects the price currently paid by the market for each rupee of currently reported earning per share (EPS). It is calculated by dividing the market value per share (MVPS) by earning per share (EPS).

**Table 4.4**

**Price Earning Ratio**

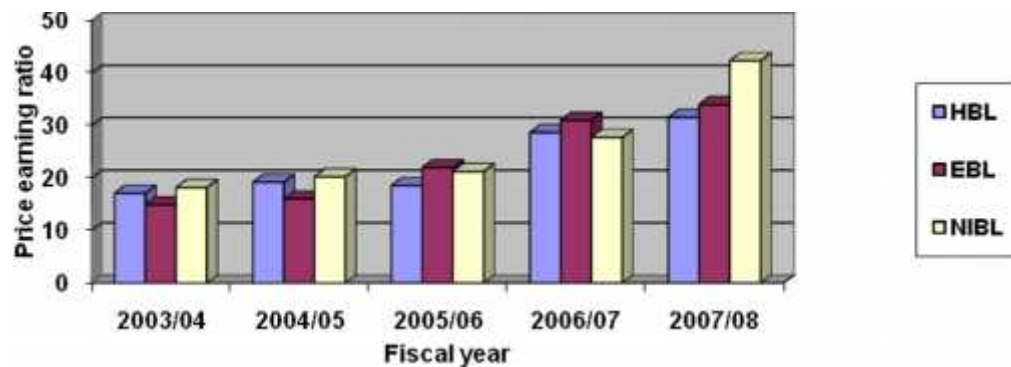
YEAR	HBL	EBL	NIBL
2003/04	17.12	14.9	18.18
2004/05	19.20	16	20.25
2005/06	18.57	22	21.23
2006/07	28.69	31	27.73
2007/08	31.56	34	42.33
<b>AVEGARE</b>	<b>23.028</b>	<b>23.58</b>	<b>25.944</b>

*(For detail calculation see appendix B4, C4 & D4)*

It is clear from the above that table NIBL shows the fluctuation in P/E ratio than HBL and EBL. By seeing above data each bank has a price earning ratio in increasing order yearly and their average price earning

ratio was HBL has 23.028 average P/E ratio EBL has 23.58 and NIBL has 25.944. All these three banks did not maintain their average price earning ratio during the fiscal year. NIBL has highest P/E 42.33 in fiscal year 2007/08. In same fiscal year EBL has 34 and HBL has 31.56 in the same This presentation helps the study be clarifying the relationship between earning per share and market price per share. So above analysis, helps to judge the investors expectations about the banks performance and also the market appraisal of the banks performance. The higher P/E ratio indicates the favorable condition for the owner. So in this regard, the performance of NIBL for the last five year is better than other two banks.

**Figure No 4.4**  
**Price Earning Ratio of HBL, EBL, NIBL**



#### **Market Value per share to Book Value per share**

This ratio indicates the price the market is paying for the price that is reported from the net worth of the banks, or in other words, it is the price of the outsiders are paying for each rupee reported by the balance sheet of the banks. It is calculate by dividing the market Value Per Share (MVPS) by the Book Value Per Share (BVPS).

**Table 4.5**

**Market Value per share to Book Value per share**

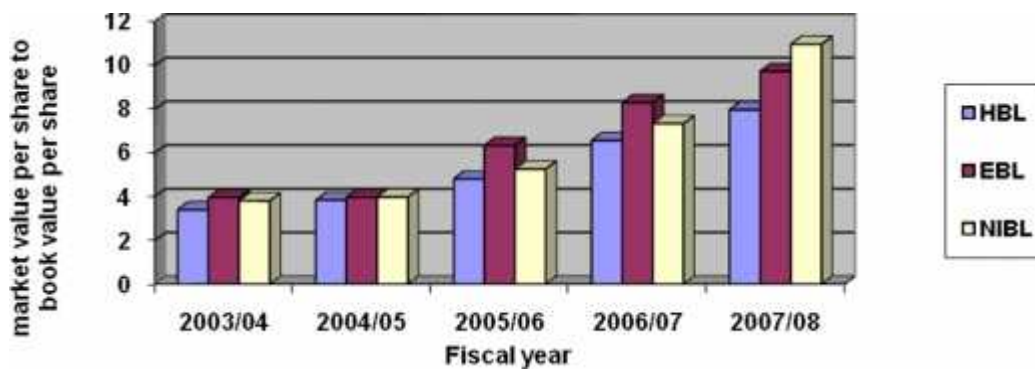
YEAR	HBL	EBL	NIBL
2003/04	3.4 times	3.96 times	3.81 times
2004/05	3.84 times	3.96 times	3.98 times
205/06	4.81 times	6.34 times	5.26 times
2006/07	6.57 times	8.30 times	7.35 times
2007/08	7.98 times	9.73 times	10.97 times
AVEGARE	5.32 times	6.458 times	6.274 times

*(For detail calculation see appendix B5, C5& D5)*

The above table depicts the market value per share to book value per share of HBL, EBL and NIBL respectively. Market value per share to book value per share means to evaluate net present value of share in the market. On average market value per share to Book value per share of HBL, EBL and NIBL was 5.32, 6.458 and 6.274 respectively. It shows that EBL has the highest market value per share to book value per share as compared to the other two banks. HBL, EBL and NIBL were able to maintain its average ratio in the year 2006 / 07 and 2007 / 08. Above analysis helps to conclude that in terms of market value to Book value per share ratio, their performance looks similar little bit performance EBL is better than HBL and NIBL.

**Figure No 4.5**

**Market Value Per share to Book Value Per Share**



### Dividend Yield Ratio

The dividend yield reflects the percentage relationship between dividend per share and market value per share. It is calculated by dividing the cash dividends per share (DPS) by the market value per share (MVPS).

**Table 4.6**  
**Dividend Yield Ratio**

YEAR	HBL	EBL	NIBL
2003/04	2.38%	2.94%	1.59%
2004/05	3.43%	2.30%	1.56%
205/06	3.18%	1.81%	4.40%
2006/07	2.30%	1.65%	1.73%
2007/08	2.27%	1.60%	1.67%
AVEGARE	2.713%	2.06%	2.19%

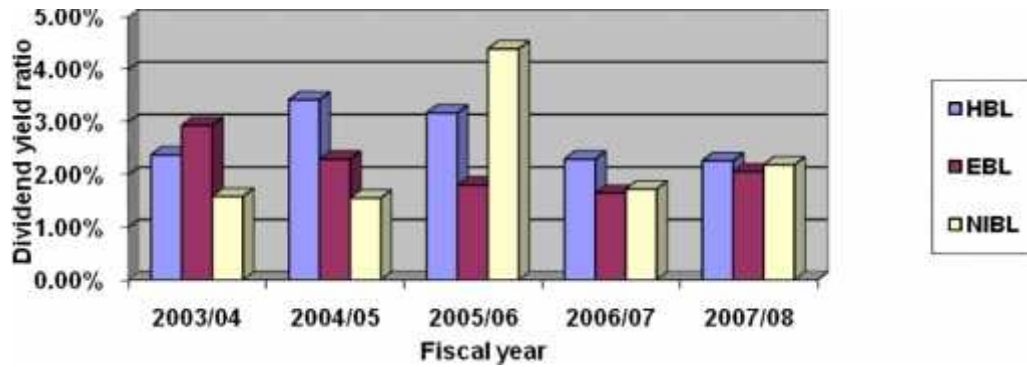
*(For detail calculation see appendix B6, C6, & D6)*

Dividend yield ratio highly influences the market value per share because a change in dividend per share can bring effective change in the market value of that share. Therefore, before allocation of dividend to the share holders the impact on market scenario and price fluctuation is to be studied and evaluated for the long run survival of the bank. Above table shows that Average dividend yield ratio of HBL (2.712%) is higher than that of EBL (2.06%) and NIBL (2.19) HBL failed to maintain its average dividend yield ratio in the fiscal year 2003 / 04 , year 2006 / 07 and 2007 / 08 whereas EBL has failed to maintain its average dividend yield ratio in three fiscal years. In aggregate, HBL is more efficient than EBL and NIBL for distribution of dividend on the basis of market price per share. The relationship between dividend yield ratio and market price per share is positive. If there is high dividend yield ratio the market price of share is also increased. Low dividend yield ratio makes market price per share decrease. So, high dividend yield ratio is better for banks.



**Figure No 4.6**

**Dividend Yield Ratio**



#### 4.2 Analysis of means, standard deviation and correlation matrix.

This study has already described dividend practices between HBL, EBL and NIBL with the help of financial tools which have given accurate picture. But more elaborate and extensive research is considered as better to make the analysis more research oriented. Thus dividend payment as followed by HBL, EBL and NIBL can better explain through the use of statistical tools provide meaningful relationship among the various interrelated variables. So first of all, it is useful to determine the degree of correlation between dividend and variables that used in the regression analysis and the means and standard deviations of all the variables used in the regression analysis. The means, standard deviation and zero order correlation co-efficient of HBL, EBL and NIBL are presented in table. 4.7.

**Table 4.7**

**Means, standard Deviations and Correlation of Dividend per Share with Earning per Share, Net profit, Market Price per Share and Net worth of HBL**

VARIABLES	CASES	MEAN	S.D	Correlation with				
				DPS	EPS	NP	PM	NW
DPS	5	34.316	8.48	1.00	0.870	0.9340	0.8870	0.9466
EPS	5	55.92	6	-	1.00	-	-	-
NP	5	431.296	133.89	-	-	1.00	-	-
PM	5	1316	458.4146	-	-	-	1.00	-
NW	5	1858.67	426.046	-	-	-	-	1.00

Note: "DPS" Represents dividend per share,  
 "EPS" Represents earning per share  
 "NP" represents net profit  
 "Pm" represents market price per share  
 "NW" represents net worth

Above table shows that average value of dividend per share, earning per share net profit, and net worth of HBL is 34.316, 55.92, 431.296,1316 and 1858.67 respectively. Standard Deviation of dividend per share, earning per share net profit, and net worth of HBL is 8.486, 6, 133.89, 458.4146 and 426.046 respectively. From above correlation matrix that dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in HBL, and their value is 0.870, 0.9340, 0.8870 and 0.9466 respectively. From above table it is concluded that there is highly positive correlation between DPS, EPS, NP, PM and NW.

**Table 4.8**

**Means, standard Deviations and Correlation of Dividend per Share with Earning per Share, Net profit, Market Price per Share and Net worth of EBL**

VARIABLES	CASES	MEAN	S.D	Correlation with				
				DPS	EPS	NP	PM	NW
DPS	5	31	12	1.00	0.9560	0.9391	0.9938	0.9765
EPS	5	66.56	17	-	1.00	-	-	-
NP	5	267.046	109	-	-	1.00	-	-
PM	5	1698.2	940	-	-	-	1.00	-
NW	5	948.7	367	-	-	-	-	1.00

Above table shows that average value of dividend per share, earning per share net profit, and net worth of EBL is 31, 66.56, 267.046, 1698.2 and 948.7 respectively. Standard Deviation of dividend per share, earning per share net profit, and net worth of EBL is 12, 17, 109, 940 and 367 respectively. From above correlation matrix that dividend per share is highly positive correlated with earning per share, net profit, market price per share and net worth in EBL, and their value is 0.9560, 0.9391, 0.9938, and 0.9765 respectively

**Table 4.9**

**Means, standard Deviations and Correlation of Dividend per Share with Earning per Share, Net profit, Market Price per Share and Net worth of NIBL**

VARIABLES	CASES	MEAN	S.D	Correlation with				
				DPS	EPS	NP	PM	NW
DPS	5	30.758	1577.9	1.00	0.5887	0.5527	0.52018	0.5138
EPS	5	54.198	8.1535	-	1.00	-	-	-
NP	5	386.72	194.54	-	-	1.00	-	-
PM	5	1435.8	599.25	-	-	-	1.00	-
NW	5	1577.9	667.06	-	-	-	-	1.00

Above table shows that average value of dividend per share, earning per share net profit, and net worth of NIBL is 30.758, 54.198, 386.72, 1435.8 and 1577.9 respectively. Standard Deviation of dividend per share, earning per share net profit, and net worth of NIBL is 16.086, 8.1535, 194.54, 599.25 and 667.06 respectively. From above correlation matrix that dividend per share is moderate positive correlated with earning per share, net profit, market price per share and net worth in NIBL, and their value is 0.5887, 0.5527, 0.52018 and 0.5138 respectively In conclusion the average value of dividend per share, net profit, and net worth of HBL is higher than that of EBL and NIBL. Earning per share and market price per share of EBL is higher than the HBL and NIBL. Variability of dividend per share NIBL is higher than HBL and EBL. But variability of EPS and Market price per share is higher in EBL than HBL and NIBL. And variability of net profit and net worth is higher in NIBL than HBL and EBL It is clear from correlation matrix that dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in HBL ,EBL and NIBL

To sum up, the payment of dividend depends upon the net profit after tax and EPS. On the other hand, the prices of Nepalese stocks and Net Worth of the banks depend upon the dividend payment. So this result suggests that high net profit after tax and earning per share might be able to increase dividend per share and high dividend per share might be able to increase the stock prices and net worth in these two banks.

### **4.3 Simple Regression Analysis**

Simple regression analysis is used as a tool of determining the strength of relationship between two variables. The analysis used to describe the average relationship between two variables is known as simple linear regression analysis. It is a statistical device by which we can estimate or predict the value of one variable when the value of other variable is known. Regression lines are expressed in terms of algebraic relations i.e.  $y = a + bx$  where  $y$  is a dependent variable and  $x$  is an independent variable.

Similarly, a is the intercept variable when independent variables is zero. In other words, it is better to understand that a (constant) indicates the mean or average effect on dependent variable of all the variables omitted from the model. Likewise, regression coefficient (b) describes how changes in independent variables affect the value of dependent variables. Standard Error of Estimate (SEE) measures the accuracy of the estimated figures. To test the validity of our assumption, if the sample size (n) is less than 30, ttest is used. If the calculated value of "t" exceeds the table value say (0.05). We infer that the difference is significant at 5% level of significance. But if "t" is less than the concerning table value the difference is not treated as significant. Under stated table present the usual simple linear relationship between dividend per share and earning per share, dividend per share and net profit, market price per share and dividend per share, net worth and dividend per share. The major output of simple regression model of the sample banks based on the data is given below. Table 4.10 present the relationship between dividend per share and earning per share.

**Table 4.10**  
**Simple regression results of dividend per share and earning per share**  
**(DPS=a + b EPS)**

Banks	Simple Size	Regression coefficient				
		A	B	S.E	R2	T—VALUE
HBL	5	-30.83	1.165	3.1086	0.7569	0.3746
EBL	5	-15.8249	0.70311	0.1760	0.9139	3.996
NIBL	5	-45.16	1.4008	0.5887	0.5041	2.379

*(For detail calculation see appendix B7, C7& D7)*

Note:-

- DPS and EPS represent dividend per share and Earning per share Table value of t at 5% level of significance for (5+5+5-3 = 12) 12 degree of freedom is 2.179 With respect to the above regression results of dividend per share on earning per share, beta coefficient is positive in HBL, EBL and NIBL. In case of HBL, beta coefficient (1.165) indicates that one rupee increase in earning per share leads to the average about Rs 1.165 increase in dividend per share holding other variables constant. In case of EBL, beta coefficient (0.70311) indicates that the one rupee increase in earning per share leads to the average about Rs. 0.70311 increase in dividend per share holding other variables constant. In case NIBL, beta coefficient (1.4008) indicates that one rupee increase in earning per share leads to the average about Rs 1.4008 increase in dividend per share holding other variables constant. Hence from the above analysis, NIBL is the strongest bank for paying the dividend in excess amount if there is an increased one rupee in earning per share among the three banks. The largest amount of R<sub>2</sub> is present in EBL among the three. In case of EBL, value of R<sub>2</sub> is present (0.9139) indicates that 91.39% of dividend variation explained by earning variables. In case of HBL, value of R<sub>2</sub>(0.7569) indicates that 75.69%of dividend variation explained by earning variables while in case of NIBL, value of R<sub>2</sub>(0.5041) indicates that (50.41)% of dividend variation explained by earning variables. The result of beta coefficient is statistically

significant at 5 percent level of significance in EBL and NIBL because calculated value of 't' higher than tabulated value of t (2.179). But it is not statistically significant in case of HBL, because calculated value of „t" is less than tabulated value of t (2.179). Similarly, table 4.11 represents the relationship between dividend per share and net profit.

**Table 4.11**  
**Simple regression results of dividend per share and Net profit per share**  
**(DPS=a + b NP)**

Banks	Simple Size	Regression coefficient				
		A	B	S.E	R2	T—VALUE
HBL	5	8.87	0.059	0.009575	0.8723	6.16
EBL	5	3.36	0.1035	0.01602	0.8819	3.36
NIBL	5	13.128	0.0456	2.9197	0.3055	0.1562

*(For detail calculation see appendix Bs, Cs& Ds)*

Note:

-DPS and NP represent dividend per share and net profit.

-Table Value of t at 5% level of significance for (5+5+5-3 = 12) 12 degree of freedom is 2.179.

According to above regression results of dividend per share on net profit, beta coefficient is positive in HBL, EBL and NIBL. In case of HBL, beta coefficient (0.059) indicates that one rupee increase in net profit leads to the average about Rs. 0.059 increase in dividend per share holding other variables constant. While incase of EBL, beta coefficient (0.1035) indicates that one rupee increase in net profit leads to the average about Rs. 0.1035 increase in dividend per share holding other variables constant. In case on NIBL, beta coefficient (0.0456) indicates that one rupee increase in net profit leads to the average about Rs(0.0456) increase in dividend per share holding other variables constant. From above analysis, it is clear that EBL might be able to pay higher dividend than HBL and NIBL if one rupee of net profit will increase among three banks. Among three banks, EBL has highest value of R2 is (0.8819) indicates that 88.19% of dividend variation can explained by net profit variables. In case of HBL, the value of R2 (0.8723) indicates that 87.23% of dividend variation can explain by net profit variables. In case of NIBL, the value of R2 (0.3055) indicates that (30.55%) of dividend variation can explained by net profit variables. This result is not statistically significance at 5% level of significance in NIBL because calculated value of 't' is less than tabulated value of t (2.179) at 5% level of significance. But the result of HBL and EBL is statistically significant at 5% percent level of significance because of having calculated value of 't' more than that of tabulated value (2.179). Similarly, Table 4.12 is also presenting the relationship between dividend per share and market price per share.

**Table 4.12**

Simple regression results of market price per share on dividend per share.  
( $P_m = a + b \text{ DPS}$ )

Banks	Simple Size	Regression coefficient				
		A	B	S.E	R <sup>2</sup>	T--VALUE
HBL	5	-331	48.01	10.57	0.7867	4.5421
EBL	5	-715	77.85	32.98	0.9876	2.36
NIBL	5	839.80	19.3770	31.82	0.27059	0.6089

*(For detail calculation see appendix B<sub>9</sub>, C<sub>9</sub> & D<sub>9</sub>)*

Note:

-DPS and  $P_m$  represent dividend per share and Market price respectively.

-Table value oft at 5% level of significance for  $(5+5+5 - 3 = 12)$  12 degree of freedom is 2.179.

On the basis of above regression results of market price per share on dividend per share, beta coefficient (b) is positive in HBL, EBL and NIBL. In case of HBL, beta coefficient (48.01) indicates that one rupee increase in dividend per share leads to average about Rs 48.01 increase in market price per share holding other variables constant. In case of EBL, beta coefficient (77.85) indicates that one rupee increase in dividend per share leads to average about Rs. 77.85 increase in market price per share holding all other variables constant. In the case of NIBL beta coefficient (19.38) indicates that one rupee increase in dividend per share leads to average about Rs. 19.38 increase in market price per share holding other variables constant. From the above table it is clear that of one rupee of dividend per share is increased in three banks at the same time. The value of R<sup>2</sup> in case of EBL is higher than that of HBL and NIBL. In case of EBL, value of R<sup>2</sup> (0.9876) indicates that only 98.76% of market price per share variation is explained by dividend variable. In case of HBL, value of R<sup>2</sup> (0.7867) indicates that only 78.67% of market price per share variation is explained by dividend variable. In case of NIBL, value of R<sup>2</sup> (0.2706) indicates that only (27.06%) of market price per share variation is explained by dividend variable. This result is not statistically significance at 5% level of significance in NIBL because calculated value of 't' is less than tabulated value of t (2.179) at 5% level of significance. But the result of HBL and EBL is statistically significant at 5% percent level of significance because of having calculated value of 't' more than that of tabulated value (2.179). Similarly, following table 4.13 presents relationship between dividend per share and net worth.

**Table 4.13**

Simple regression results of Net worth on dividend per share.  
( $NW=a+ b \text{ DPS}$ )

Banks	Simple Size	Regression coefficient				
		A	B	S.E	R2	T--VALUE
HBL	5	226.60	47.56	6.864	0.8960	6.9289
EBL	5	22.73	29.87	2.794	0.9535	10.69
NIBL	5	1423.69	21.31	15.075	0.2640	1.4133

*(For detail calculation see appendix B9, C9 & D9)*

Note:

-NW and DPS represent net worth and dividend per share respectively. -Table value of t at 5 % level of significance for  $(5+5+5-3 = 12)$ 12 degree of freedom is 2.179. As for the regression result of net worth on dividend per share are concerned, beta coefficient is positive in HBL, EBL and NIBL .In case of HBL, beta coefficient (47.56) indicates that one rupee increase in dividend per share leads to the average about Rs. 47.56 increase in net worth remaining other variables constant. In case of EBL, beta coefficient (29.87) indicates that one rupee increase in dividend per share leads to the average about Rs. 29.87 increase in net worth. In case of NIBL, beta coefficient (21.3054) indicates that one rupee increase in dividend per share leads to the average about Rs. 21.3054 increase in net worth remaining other variables constant. Hence it might be concluded that increase in one rupee of dividend per share in three banks. The value of R2 for EBL is higher than that of NIBL and HBL. In case of EBL, value of R2 (0.9535) indicates that only 95.35% of net worth variation is explained by dividend variables. In case of HBL, value of R2 (0.8960) indicates that only 89.60% of net worth variation is explained by dividend variables similarly, in case of NIBL, value of R2 (0.2640) indicates that only 26.40% of net worth is explained by dividend variables. This result is not statistically significance at 5% level of significance in NIBL because calculated value of 't' is less than tabulated value of t (2.179) at 5% level of significance. But the result of HBL and EBL is statistically significant at 5% percent level of significance because of having calculated value of 't' more than that of tabulated value (2.179). According to above analysis, it can clearly be observed that beta coefficient (b) is positive in three banks. It shows that there is positive relationship between dividend and other variables. While analyzing the significant of the test, it is found that test of regression coefficient (b) are significant at 5% level of significance in all the regression equations describe above except dividend per share on earning per share in HBL. The analyzing the significant of the test, it is found that test of regression coefficient (b) are not significant at 5% level of significance in all the regression equations describe above except dividend per share on earning per share in NIBL. But in case of EBL it is analyzing the significant of the test, it is found that test of regression coefficient (b) are significant at 5% level of significance in all the

regression equations. However, from the above analysis of regression results it is obvious that the coefficient of determination ( $R^2$ ) is high in case of dividend per share on earning per share, and market price per share on dividend per share, net worth on dividend per share in EBL. It means regression results have satisfactory explained dividend per share variation by earning per share variation, market price per share variation by dividend variation and net worth per share variation by dividend variation. This result is statistically significant at 5% level of significance because calculated value of  $t$  is higher than tabulated value of  $t$ .

#### 4.4 Test of Hypothesis

Hypothesis test of EPS of HBL, EBL and NIBL.

##### Hypothesis First:

Null hypothesis ( $H_0$ ):  $\mu_1 = \mu_2 = \mu_3$  i.e, there is no significant difference in EPS of HBL, EBL and NIBL.

Alternative hypothesis ( $H_1$ ):  $\mu_1 \neq \mu_2 \neq \mu_3$  i.e. there is significant difference in EPS of HBL, EBL and NIBL

**Table 4.14**

YEAR	2003/04	2004/05	2005/06	2006/07	2007/08
<b>BANKS</b>					
<b>HBL</b>	49.05	47.91	59.24	60.66	62.74
<b>EBL</b>	45.6	54.2	62.8	78.4	91.82
<b>NIBL</b>	51.7	39.5	59.35	62.57	57.87

Computation of test statistic „F“

Total Sum of square (T.S.S) = 2356.86

Sum of square due to bank (SSB) = 448.63

Sum of square due to error (S.S.E) = 1908.23



## ANOVA TABLE

S.N	Source of Variation (S.V)	Sum of Square	D.F	Mean Sum of square (M.S.S)	F <sub>1</sub> '- Test
1	Due to banks	448.63	2	224.315	1.41069
2	Due to Error	1908.23	12	159.01	
3	Total	2356.86	14		

Critical Value: The tabulated value of F at 5% level of significant for 2 and 12 d.f is 3.89.

Decision: Since calculated value of F (1.41069) is less than tabulated value of F<sub>0.05</sub>. Ho is accepted and hence the alternative hypothesis H<sub>1</sub> is rejected. Therefore we conclude that there is no significant difference in the EPS between concerned banks.

### Hypothesis Second:

Hypothesis test of DPS of HBL, EBL and NIBL

Null hypothesis (H<sub>0</sub>):  $\mu_1 = \mu_2 = \mu_3$  i.e., there is no significant difference in DPS of HBL, EBL and NIBL

Alternative hypothesis (H<sub>1</sub>):  $\mu_1 \neq \mu_2 \neq \mu_3$  i.e., there is significant difference in DPS of HBL, EBL and NI

**Table 4.15**  
Dividend per share:

YEAR	2003/04	2004/05	2005/06	2006/07	2007/08
<b>BANKS</b>					
<b>HBL</b>	20	31.58	35	40	45
<b>EBL</b>	20	20	25	40	50
<b>NIBL</b>	15	12.5	55.46	30	40.83

Computation of test statistic 'F'

Total Sum Of square (T.S.S) = 2412.757

Sum of square due to bank (S.S.B) = 39.522

Sum of square due to error (S.E.E) = 2373.235

## ANOVA TABLE

S.N	Source of Variation (S.V)	Sum of Square	D.F	Mean Sum of square (M.S.S)	F <sub>1</sub> '- Test
1	Due to banks	39.522	2	19.761	0.0999
2	Due to Error	2373.235	12	197.7696	
3	Total	2412.757	14		

**Critical Value:** The tabulated value of F at 5% level of significant for 2 and 12 d.f is 3.89.

**Decision:** - Since calculated value of F 0.0999 is less than tabulated value of F<sub>0.05</sub> Ho is accepted. Therefore, we conclude that is no significant difference in DPS between concerned banks.

### Hypothesis Third:

Hypothesis test of MPS of HBL, EBL and NIBL

Null hypothesis (H<sub>0</sub>):  $\mu_1 = \mu_2 = \mu_3$  i-e., there is no significant difference in MPS of HBL EBL and NIBL

Alternative hypothesis (H<sub>1</sub>):  $\mu_1 \neq \mu_2 \neq \mu_3$  i-c there is significant difference in MPS of HBL, EBL and NIBL

**Table 4.16**  
Market price per share

YEAR	2003/04	2004/05	2005/06	2006/07	2007/08
<b>BANKS</b>					
<b>HBL</b>	840	920	1100	1740	1980
<b>EBL</b>	680	870	1379	2430	3132
<b>NIBL</b>	940	800	1260	1729	2450

Computation of test statistic 'F'

Total Sum Of square (T.S.S) = 7644239.73

Sum of square due to bank (S.S.B) = 382137.733

Sum of square due to error (S.E.E) = 7262102

## ANOVA TABLE

S.N	Source of Variation (S.V)	Sum of Square	D.F	Mean Sum of square (M.S.S)	F <sub>1</sub> '- Test
1	Due to banks	382137.733	2	191068.865	0.3157
2	Due to Error	7262102	12	605175.1667	
3	Total	7644239.73	14		

**Critical Value:** The Tabulated value of F at 5% level of significant for 2 and 12 d.f is 3.89.

**Decision:** Since calculated value of F (0.3157) is less than tabulated value of F<sub>0.05</sub> H<sub>0</sub> is accept and hence the alternative hypothesis H<sub>1</sub> is rejected Therefore we conclude that there is no significant difference in the MPS between concerned banks.

### Hypothesis Fourth:

Hypothesis test of NW of HBL, EBL and NIBL

Null hypothesis (H<sub>0</sub>):  $\mu_1 = \mu_2 = \mu_3$  i.e., there is no significant difference in net worth of HBL, EBL and NIBL

Alternative hypothesis (H<sub>1</sub>):  $\mu_1 \neq \mu_2 \neq \mu_3$  i.e. there is significant difference in net worth of HBL, EBL and NIBL

**Table 4.17**

**Net worth**

YEAR	2003/04	2004/05	2005/06	2006/07	2007/08
<b>BANKS</b>					
<b>HBL</b>	1324.16	1541.76	1766.18	2147.04	2514.21
<b>EBL</b>	540.3	692.6	822.8	1106.6	1581.2
<b>NIBL</b>	729.048	1180.17	1415.44	1878.12	2686.79

Computation of test statistic 'F'

Total Sum Of square (T.S.S) = 5976985.77

Sum of square due to bank (S.S.B) = 2171299.37

Sum of square due to error (S.S.E) =3805686.4

### ANOVA TABLE

S.N	Source of Variation (S.V)	Sum of Square	D.F	Mean Sum of square (M.S.S)	F <sub>1</sub> '- Test
1	Due to banks	2171299.37	2	1085649.685	3.42
2	Due to Error	3805686.4	12	317140.53	
3	Total	5976985.77	14		

**Critical Value:** The tabulated value of F at 5% level of significant for 2 and 12 d. f is 3.89.

**Decision:** Since calculated value of F (3.42) is less than tabulated value of  $F_{0.05}$   $H_0$  is accepted and hence the alternative hypothesis  $H_1$  is rejected. Therefore we conclude that there is no significant difference in the net worth between concerned banks.

#### 4.5 Major finding of the study

1. Average earning per share of EBL is the highest amount among the three banks. Earning per share is increasing trend in EBL. Average earning per share of HBL has increasing trend except fiscal year 2004/2005. Average earning per share of NIBL is in fluctuating trend.
2. Average dividend per share of HBL is the highest among the three banks. Dividend per share is increasing trend in HBL and EBL. Average dividend per share is in fluctuating trend in NIBL.
3. On the basis of dividend payout ratio, HBL comes first in paying higher percentage of its earning as a dividend among three. EBL shows the lowest ratio.
4. Average price earning ratio of NIBL is the highest among the three banks. HBL shows the lowest ratio. The highest price-earning ratio indicates the favorable condition for the owner. Therefore, in this regard the performance of NIBL for the last five-year is the best among the three banks.
5. On the basis of dividend yield ratio, HBL is the efficient among the three banks for the distribution of dividend on the basis of market price per share. EBL shows the lowest ratio
6. Average market value per share to book value per share ratio of EBL is the highest among three banks. Higher ratio indicates that there is greater chance of higher capital gain to EBL shareholders. HBL shows the lowest ratio.
7. Dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in case of HBL, EBL and NIBL. It means higher the earning per share, net profit, market price per share and net worth, higher will be the dividend per share and vice-versa.
8. In case of regression analysis of dividend per share on earning per share, beta coefficient is positive in three samples banks. Among them NIBL might be able to pay higher dividend per share if one rupee of earning per share is increased in all of them at the same time.
9. With respect to regression analysis of dividend per share on net profit beta coefficient is positive in three samples banks. It indicates if one rupee increase in net profit the same time dividend per share of HBL, EBL and NIBL are increased by Rs 0.059, Rs 0.1035 and 0.0456 respectively.
10. As for the simple regression analysis of market price per share on dividend per share was concerned, beta coefficient is positive in EBL, HBL and NIBL. This indicates banks at the same time market price per share of HBL is increased by Rs 48.01, market price of EBL is increased by RS 77.85 and market price of NIBL is increase by Rs 19.37.

11. According to simple regression analysis of net worth on dividend per share beta coefficient is positive among three sample banks. This shows that if one rupee dividend per share will increase in these banks at the same time, net worth of HBL, EBL and NIBL might be increased by Rs 47.56, Rs 29.87 and Rs 21.3054 respectively.
12. The coefficient of determination ( $R^2$ ) is higher in case of dividend per share on earning per share and on net profit and market price per share, net worth on dividend per share in EBL. It means regression results have satisfactorily explained dividend per share variation by earning per share variation and market price per share variation by dividend per share variation.
13. There is not stable dividend paid by three banks over the five years. They are paying regular dividend but due to lack of sustainable strategic dividend policy, the dividend payment policy of these banks is not clear.
14. While considering the three banks, market price is considerably higher than net worth in case of EBL. The huge gap can be seen in the year 2005/06 to 2007/08. This clearly shown that investor does not have adequate knowledge about how to evaluate value of shares before investing on it.
15. The pattern of dividend payout ratio of these banks demonstrated the conservative dividend policy followed by the banks. Relationship between the earnings, dividend payment and growth and expansion programmed of the companies did not exist. Practices of dividend payout without having growth and diversification schemes lead to have check on maximization of the shareholders wealth. In this way dividend policy followed by the banks should not appropriate because this type of dividend policy have not any rule and criteria.
16. The test of hypothesis carried out shows out that there is no significant difference between DPS, EPS, MPS and NW of all three commercial banks.

# CHAPTER – V

## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary

Dividend policy is one of the major decisions of financial management. The dividend policy decision affects on the operation and prosperity of the organization. It influences the two decisions of the organization i.e. capital decision and investment decisions. An investor expects two types of return that is capital gain and dividend by investing in equity capital. So payment of dividend to shareholders is an effective way to attract new investors and maintain present investors. It is important to have clearly defined and effectively managed dividend policy to fulfill the shareholders' expectations and corporate growth. Dividend is an important tool to attract the new investors. Besides this dividend paying ability reflects the financial position of the organization in the market. Due to the division of earnings between dividend payout and retention ratio the market price of the share may also be reflected so, it is the crucial decision of the organization. In Nepalese environments after government adopted liberalization and privatization policy, dividend policy is taking its path, slowly. Every investor must have knowledge of dividend policy. So they can make better decisions before they invest. Only those companies pay dividend which are in profit. Here in the study dividend paying banks have been analyzed to show the implications of the dividend policy. The study covers joint venture banks (HBL, EBL and NIBL) and only for the last 2003/04 to 2007/08. The available secondary data collected from various sources has been analyzed using various financial and statistical tools. So, the reliability of conclusion of this study is determined on the accuracy of secondary data. There is the vague practice on distribution of dividend in Nepalese companies. Shareholders have a high expectation that market price of share will be significantly higher than net worth. However, the dividend is paid only in profitable years end in most of the years. Instability of dividend and inconsistent payout ratio is the most applied phenomena of Nepalese dividend distribution practices. The theoretical statement of the study was that dividend decision should depend upon earnings per share and net profit. Similarly, prices of stock and net worth should depend upon dividend decision. After the analysis part, different financial indicators of these banks show that average dividend per share of HBL is the highest among the three banks, which indicates that HBL is paying higher dividend to its shareholders. On the average earnings per share EBL is the most successful among the three banks. On the basis of average dividend payout ratio, HBL is paying higher portion of dividend of its earnings as dividend. Similarly, average price earnings ratio of NIBL is also highest than EBL and HBL, which means NIBL has better performance for enhanced the wealth of shareholders. Moreover, on the basis of market value per share to book value per share, EBL performance is better because increasing trend of market value per share is higher. On the basis of dividend yield ratio, HBL is more efficient for distribution of dividend on the basis of market value.

per share. For the purpose of statistical analysis of the entire sample banks simple correlation and regression analysis is used to interpret the results. Dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in all of these three banks. As far the simple regression of dividend per share on earning per share, beta coefficient is positive in all of these three sample banks. The positive sign for beta coefficient of earning per share indicates that dividend per share increase with higher earning per share remaining other variables constant. With respect to regression analysis dividend per share on net profit, beta coefficient is positive in these three banks. Positive beta coefficient indicates that increase in net profit results increase in dividend per share. As far the simple regression of market price per share on dividend per share concerned, beta coefficient is positive in HBL, EBL and NIBL. This result indicates that increase in dividend per share results increase in market price per share. With respect to simple regression of net worth on dividend per share, beta coefficient is also positive in these three banks. This shows that increase in dividend per share results increase in net worth of these banks. With respect to hypothesis setting, there is no significant difference in DPS, EPS, MPS and NW of the sample banks. From the above analysis the study found that there is not a consistent dividend policy in any of the three sectors analyzed. Pay out of dividend seems to be a totally random act decided upon by the whims of the board of directors of the companies. This study not only shows a developing capital markets but also the lack of knowledge of the investors.

## 5.2 Conclusion

The study was unable to find exact dividend policy for any one of the three commercial banks studied and basically dividend payout was decide by the board of directors on a year to year basis. This dividend payout decision is probably base on the financial performance of the company in the previous year. Because of lack of dividend policies in any of the companies, the results of the analysis show some very strange behaviors in the financial performance indicate of the companies studied. The analysis performed on the financial data of the three commercial banks chosen has failed to establish a concrete relation between dividends polices and practices in Nepal. There appear to be slight general trends but no set of rules apply to all the companies. Moreover, there was a few surprising results that seemed to defy economic logic. By analyzing the financial and statistical indicators of all the three banks, the following conclusions have been drawn regarding the prevalent dividend payout practices of the public listed companies of Nepal. Dividend practices of the sample banks are neither stable, nor constantly growing;

Haphazard way of distribution in growing trend is observed. These banks follow no specific dividend payment strategy. Payment of cash and stock dividend are made without wise managerial decision. There are no legal rules those binding companies to pay dividend when they are running at profit. Not only the companies do not have any clear policy towards dividend decision but also there is no provision in company act. Earning per share of sample bank effects dividend per share differently. In HBL DPS trend is increasing even in fiscal year 2004/05, when EPS is decreased. In EBL EPS is in increasing trend, DPS is also in increasing trend expect fiscal year 2004/05. In fiscal year 2004/05 DPS is constant. In NIBL EPS and DPS both trend is fluctuating. The implications of fluctuating earning per share and dividend per share could not make clear to the public. HBL has higher dividend payout and dividend yield ratio. Dividend payout ratio indicates that HBL has more ability to pay dividend than other two sampled bank.

Dividend yield ratio indicates HBL is the efficient among the three banks for the distribution of dividend on the basis of market price per share. Average price earning ratio of NIBL is the highest among the three banks. The highest price-earning ratio indicates the favorable condition for the owner. Average market value per share to book value per share ratio of EBL is the highest among three banks. Higher ratio indicates that there is greater chance of higher capital gain to EBL shareholders. MPS is much higher than net worth per share in the case of EBL. This indicates that the investors either have a very optimistic view on the future performance of the companies or that they are not investigating the performance indicators of the companies in which they are investing properly. Dividend per share is positively correlated with earning per share, net profit, market price per share and net worth in case of HBL, EBL and NIBL. It means higher the earning per share, net profit, market price per share and net worth, higher will be the dividend per share and vice-versa. Many of the coefficients of correlations are actually significant to base any sound conclusions from the results. There are differences in financial position of high dividend paying and low dividend paying companies. Other things remaining same financial position of high dividend paying companies is comparatively better than low dividend paying companies and not paying dividend companies. The test of hypothesis carried out shows out that there is no significant difference between DPS, EPS, MPS and NW of all three commercial banks. The majority of the investors in the capital markets of Nepal are not economically sound in their judgment to invest in share market. A lot of them invest without looking at even the basic financial indicators of the companies they are investing in. The system of liberal economic policies and capital markets are still a relatively new phenomenon in Nepal and are growing stronger. However it is still not so well developed to be performing in an efficient manner.

### **5.3 Recommendations**

On the basis of the findings of the study following recommendations have been made.

- i) The primary concern of this study is to look into the dividend policies and practices existing in the relatively immature capital markets economy of Nepal and to draw attention to both the opportunities and threats regarding the current practices. Based on the results of this study, the researcher has come up with recommendation to all of the major players in playground that is the share markets.
- ii) The management of sample bank should formulate a dividend policy covering different economical environments and adhere to the policy. They should distribute higher percentage of profits as dividend if there are no investment opportunities and retain more if investment opportunities arise and also make clear the dividend policy to the public. The government should also make clear policy towards dividend decision, and make a law to protect the rights of the minority shareholders because the minority shareholders are often helpless to find justice even though they know they are being cheated out of their proper share of money. Shareholder should also have sound knowledge about the financial state and dividend policy of the companies they have invested in.
- iii) In NIBL EPS and DPS both trend is fluctuating. The implications of fluctuating earning per share and dividend per share could not make clear to the public. So NIBL have to think about it, make possible improvement to make increasing trend in EPS and DPS.



- iv) Introducing the latest and sophisticated banking system, developing the high motivational strength in management and increasing turn over etc are some techniques to improve and increase the gap between income and expenses .
- v) In comparison to three banks average earning per share and dividend per share is less in NIBL. It indicate that return earning position of NIBL is slightly poor than two sample bank. It may create to loose goodwill of bank. So NIBL is recommended to improve the financial performances of the bank to increase the profit.
- vi) MPS is much higher than net worth per share in the case of the EBL. It is not good for the company for future. So EBL is recommended to maintain balance of the market price per share and net worth of the share. Shareholders also should analyze the financial indicator of the company through various ratio analysis techniques and they should know the net worth of the share.
- vii) Dividend payout ratio of EBL is less in comparison of two banks. There are many minority shareholders looking for regular dividend for their expenses. So, EBL is recommended to paid more percentage of earning to pay dividend.
- viii) Stock brokers should be aware of the performances of the companies whose shares they trade. They should be aware of the prospects of the capital markets, work for the proper growth of the capital market of the country. They should follow ethics and do not influence other. They should think about Information Centre to provide the proper information to the potential investors on investment.

## BIBLIOGRAPHY

### Books

Gitman, Lawrence J. (1994). "*Principle of Managerial Finance*" New York Harper Collins College Publisher

Gupta, D. P. (1984), "*The Banking System: Its Role in Export Development,*" Geneva: International Trade Center.

Gupta, S. P. (1991), "*Statistical Methods,*" New Delhi: Sultan Chand and Sons

### Publications.

Home, V and James . (2000), "*Financial Management and Policy,*" New Delhi: Prentice Hall of India Pvt. Ltd.

Jain, M. K. and Khan P.K.(1992), "*Financial Management,*" New Delhi: Tata McGraw- Hill Publishing Company Limited.

Kothari.C. R. (1996), "*Quantitative Techniques,*" New Delhi: Vikash Publishing House Pvt.Ltd.

Oilman, Lawrence J. (1994), "*Principle of Managerial Finance,*" New York: Harper Collins College Publisher.

Rao, Ramesh K. S.(1992). "*Financial Management Concept and Application,*" New York: Mac Million Publishing Company.

Panday, I.M. (1999), "*Financial Management* " New Delhi: Vikash Publication House Pvt. Ltd.

Weston, J. Fred and Copland. Thomas (1990) "*Management Finance,*" Florida: Tile Dryden Press

### Journals and Articles

Chawla, D and srinivasan G. (1987), "*Impact of Dividend and Retention on Share Price*", An Econometric study Decision, Vol. 14, No 3: 137- 140.

Gordan, M. J. (1962), "*The Investment, Financing and Valuation of Corporation,*" Homewood: 262

Holder, M.E. F. W Hangrehr and T.L Hexter (1998), *"Dividend Policy and Determinants of Sliareliolder Theory,* " New York, Journal of Finance: 73-82

Home. V. and Me Donald, J.G (1971), *"Dividend Policy and New Equity Financing,* " Journal of finance: 507-519

Modigliani, F. and Miller, M.H (1961), *"Dividend Policy Growth and Valuation of Share,"* Journal Business: 411-433

Pradhan, R. S. (1993), *"Stock Market Behavior in Small Capital Market,"* The Nepalese Management Review: 23-49

Walter, J. E. (1996), *"Dividend Policy and Common Stock Prices"* Journal of Finance: 29-42

**Unpublished Thesis:**

Adhikari, N. (1997), *"Corporate Dividend Practices in Nepal,"* Unpublished Master's Degree Thesis, Central Department, of Management, Kathmandu Tribhuvan University.

Aryal, H. R. (1997), *"Dividend Policy: Comparative Study between Nepal Arab Bank limited and Nepal Grind lays Bank limited"* Unpublished Master's Degree Thesis, Central Department of Management, Kathmandu: Tribhuvan university.

Gautam, R.R. (1998), *"Dividend Policy: Comparative Study on Dividend Policy of Grind lays Bank Lid , Nepal Indosuez Bank Lid and Nepal Arab Bank Ltd, "* Unpublished Master's Degree Thesis, Kathmandu: Shanker Dev Campus.

Rajbhandari, P.L. (2001), *"Dividend policy: Comparative Study between Banks and Insurance Companies,"* Unpublished Master's Degree Thesis, Kathmandu: Shanker Dev Campus.

Gurung, M. (2003), *"Dividend Policy of Nepalese Listed Companies with reference to Commercial Banks in Nepal, "* Unpublished Master's Degree Thesis, Kathmandu: Shanker Dev Campus.

Thapa, D. (2003), *"Dividend policy and practices: A Comparative Study between Banks and Insurance Companies in Nepal,"* Unpublished Master's Degree Thesis, Kathmandu: Shanker Dev Campus

Gautam, S (2004), "*Dividend Policy of Nepalese Financial Institution,*"  
Unpublished Master Degree Thesis, Kathmandu: Shanker Dev Campus.

Bhandari, (2005), "*Dividend Policy and its Impact on Shareholders Return and Stock Price in Nepal,*" Unpublished Master's Degree Thesis, Kathmandu:  
Shanker Dev Campus.

Guragain, D.P. (2005), "*A Study of Dividend and Us Impact on Stock Price of Nepalese Selected Commercial Banks,*" Unpublished Master's Degree  
Thesis, Central Department of Management, Kathmandu: Tribhuvan  
University.

Shrestha, K. L. (2004), "*Dividend Policy and its Impact on Stock Price: An Empirical Analysis' on Joint Venture Banks of Nepal,*" Unpublished Master's  
Degree Thesis, Kathmandu: Shanker Dev Campus

Dongol, G (2006), "*Impact of Dividend Policy on Market Price of Stock,*"  
Unpublished Master's Degree thesis, Kathmandu: Shanker Dev Campus

Shrestha, R.K. (2007), "*An Analytical Study of Dividend Policy and Practices of Major Joint Venture Banks in Nepal*" Unpublished Master's Degree Thesis,  
Kathmandu: Public Youth Campus.

#### **Annual Reports**

Himalayan Bank Limited (2003/04 to 2007/08), *Annual Report*; Kathmandu.

Everest Bank Limited (2003/04 to 2007/08), *Annual Report*: Kathmandu.

Nepal Investment Bank Limited (2003/04 to 2007/08), *Annual Report*; Kathmandu.

#### **Website:**

[www.nepal stock.com](http://www.nepalstock.com)

[www.study finance.com](http://www.studyfinance.com)

## APPENDIX-A

For calculation, following statistical formula is used.

$$1. (\sigma_x) = \sqrt{\frac{\sum x^2}{n} - \left(\frac{\sum x}{n}\right)^2}$$

$$2. (\sigma_y) = \sqrt{\frac{\sum y^2}{n} - \left(\frac{\sum y}{n}\right)^2}$$

$$3. r = \frac{\sum xy}{n \sigma_x \sigma_y}$$

where

$$x = x - \bar{x}$$

$$y = y - \bar{y}$$

$$4. S.E = \frac{\sigma_x \sqrt{1 - r^2}}{\sigma_x \sqrt{n}}$$

$$5. t = \frac{b}{S.E}$$

## APPENDIX-B

### APPENDIX-B<sub>1</sub> HIMALAYAN BANK LIMITED

YEAR	DPS	EPS	Net Profit[In million]	Market Price Per Share[in Rs]	Net Worth[In Million]	Book Value per Share[in Rs]
2003/04	20	49.05	263.03	840	1324.16	246.93
2004/05	31.58	47.91	308.30	920	1541.76	239.59
2005/06	35	59.24	457.45	1100	1766.18	228.72
2006/07	40	60.66	491.83	1740	2147.04	264.74
2007/08	45	62.74	635.87	1980	2514.21	247.95

### APPENDIX-B<sub>2</sub>

#### Calculation of dividend growth rate

Year	DPS
2003/04	20
2004/05	31.58
2005/06	35
2006/07	40
2007/08	45

If we analysis the growth of dividend paid we find difference between the actual dividend paid by the bank and dividend to be paid according to growth rate.

Dividend paid in based year (D<sub>0</sub>) =20

Dividend paid in final year (D5) =45

No. of years (n) = 5 years

Growth rate (g) =?

We know that

$$D_5 = D_0 (1+g)^4$$

$$(1+g)^4 = 45/20$$

$$(1+g) = (2.25)^{0.25}$$

$$g = 22.5\%$$

According to this formula the growth rate of HBL is 22.5%

### APPENDIX-B3

#### Calculation of dividend payout ratio

Year	DPS	EPS	DPR = $\frac{DPS}{EPS}$
2003/04	20	49.05	40.77%
2004/05	31.58	47.91	65.91%
2005/06	35	59.24	59.087%
2006/07	40	60.66	65.94%
2007/08	45	62.74	71.72%

**Where,**

DPS = Dividend per share

EPS = Earning per share

DPR = Dividend Payout Rate

### APPENDIX-B4

#### Calculation of price earning ration

Year	MVPS	EPS	P / E Ratio = $\frac{MVPS}{EPS}$
2003/04	840	49.05	17.12
2004/05	920	47.91	19.20
2005/06	1100	59.24	18.57
2006/07	1740	60.66	28.68
2007/08	1980	62.74	31.55

**Where,**

MVPS =Market value per share

P/E Ratio = Price Earning Ratio

### **APPENDIX-B5**

#### **Calculation of market value per share to book value per share**

<b>Year</b>	<b>MVPS</b>	<b>BVPS</b>	<b>MVPS/BVPS</b>
2003/04	840	246.93	3.40
2004/05	920	239.59	3.84
2005/06	1100	228.72	4.81
2006/07	1740	264.74	6.57
2007/08	1980	247.95	7.98

**Where,**

MVPS =Market value per share

BVPS = Book value per share

### **APPENDIX-B6**

#### **Calculation of Dividend Yield Ratio**

<b>Year</b>	<b>DPS</b>	<b>MVPS</b>	<b>DPS/MVPS</b>
2003/04	20	840	2.38%
2004/05	31.58	920	3.43%
2005/06	35	1100	3.18%
2006/07	40	1740	2.30%
2007/08	45	1980	2.27%

**Where,**

DPS = Dividend per share

MVPS =Market value share

D/Y Ratio= Dividend yield  
ratio

**APPENDIX-B7**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	49.05	20	2405.903	400	-6.87	-14.316	98.35092	981
2004/05	47.91	31.58	2295.368	997.2964	-8.01	-2.736	21.91536	1512.998
2005/06	59.24	35	3509.378	1225	3.32	0.684	2.27088	2073.4
2006/07	60.66	40	3679.636	1600	4.74	5.684	26.94216	2426.4
2007/08	62.74	45	3936.308	2025	6.82	10.684	72.86488	2823.3
	279.6	171.58	15826.59	6247.296	0	0	222.3442	9817.098

**Note:**

Values of X represent earning per share

Values of Y represent dividend per share

Results:

$$n = 5$$

$$a = -30.83$$

$$X = 279.6$$

$$b = 1.165$$

$$y = 171.5$$

$$\dagger X = 6$$

$$XY = 9817.098$$

$$\dagger Y = 8.48$$

$$x^2 = 15826.59$$

$$r = 0.8700$$

$$y^2 = 6247.296$$

$$\bar{x} = 55.92$$

$$\bar{y} = 34.316$$

Simple regression results of  $DPS = a + b \text{ EPS}$

**Where,**

DPS = Dividend per share

EPS = Earning per share

**Then,**

Coefficient of determination ( $R^2$ ) = 0.7569

Standard Error (S.E) = 3.1086

t value =  $b/S.E = 0.3746$

For calculation of regression Constant (a) and regression Coefficient (b) following two equations are used:

Regression equation of y or x



$$Y = N a + b X \text{-----(i)}$$

$$XY = a \sum X + b \sum X^2 \text{..... (ii)}$$

$$1. (\sum x) = \sqrt{\frac{\sum x^2}{n} Z \frac{\sum x}{n}^2}$$

$$2. (\sum y) = \sqrt{\frac{\sum y^2}{n} Z \frac{\sum y}{n}^2}$$

where

$$x = X - \bar{X}$$

$$y = Y - \bar{Y}$$

$$3. r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$4. S.E = \frac{\sum x \sqrt{1 - r^2}}{\sum x \sqrt{n}}$$

### APPENDIX-B8 Variables use in Analysis

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	263.03	20	69184.78	400	-168.266	-14.316	2408.896	5260.6
2004/05	308.3	31.58	95048.89	997.2964	-122.996	-2.736	336.5171	9736.114
2005/06	457.45	35	209260.5	1225	26.154	0.684	17.88934	16010.75
2006/07	491.83	40	241896.7	1600	60.534	5.684	344.0753	19673.2
2007/08	635.87	45	404330.7	2025	204.574	10.684	2185.669	28614.15
	2156.48	171.58	1019722	6247.296	0	0	5293.046	79294.81

**Note:**

Values of X represent net profit per share

Values of Y represent dividend per share

Results:

$$n = 5$$

$$a = 8.87$$

$$\sum X = 2156.48$$

$$b = 0.059$$

$$\sum Y = 171.58$$

$$\sum X = 133.89$$

$$\sum XY = 79294.81$$

$$\sum Y = 8.48$$

$$\sum x^2 = 1019722$$

$$r = 0.8723$$

$$\sum y^2 = 6247.296$$

$$\bar{x} = 431.296$$

$$\bar{y} = 34.316$$

Simple regression results of DPS = a + b NP

**Where,**

DPS = Dividend per share

NP = Net Profit per share

**Then,**

$$(R^2) = 0.8723$$

$$\text{Standard Error (S.E)} = 0.009575$$

$$t \text{ value} = b/S.E = 6.16$$

For calculation of regression Constant (a) and regression Coefficient (b) following two equations are used:

Regression equation of y or x

$$Y = N \frac{\sum xy}{\sum x^2} + a + b \frac{\sum x}{N} \text{-----(i)}$$

$$XY = a \sum X + b \sum X^2 \text{..... (ii)}$$

Putting the value we have solve the equation

For  $\uparrow x$  and  $\uparrow y$  we have

$$(\uparrow x) = \sqrt{\frac{\sum x^2}{n} - \frac{(\sum x)^2}{n^2}}$$

$$(\uparrow y) = \sqrt{\frac{\sum y^2}{n} - \frac{(\sum y)^2}{n^2}}$$

**where**

$$x = x - \bar{x}$$

$$y = y - \bar{y}$$

$$r = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

$$S.E = \frac{\uparrow x \sqrt{1 - r^2}}{\uparrow x \sqrt{n}}$$

### APPENDIX – B9 Variables use in Analysis

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	2	840	400	705600	-14.316	-476	6814.416	16800
2004/05	31.58	920	997.2964	846400	-2.736	-396	1083.456	29053.6
2005/06	3	1100	1225	1210000	0.684	-216	-147.744	38500
2006/07	4	1740	1600	3027600	5.684	424	2410.016	69600
2007/08	4	1980	2025	3920400	10.684	664	7094.176	89100
	171.58	6580	6247.296	9710000	0	0	17254.32	243053.6

**Note:**

Values of X represent Dividend per share

Values of Y represent Market value per share

Results:

n = 5	a = 940.732
X = 171.58	b = 48.01
Y = 6580	† X = 8.48
XY = 243053.6	† Y = 458.4146
X <sup>2</sup> = 6247.296	r = 0.8870
Y <sup>2</sup> = 9710000	
$\bar{x}$ = 34.316	$\bar{y}$ = 1316

Simple regression results of  $P_m = a + b \text{ DPS}$

**Where,**

$P_m$  = Market price per share

DPS = Dividend per share

**Then,**

Coefficient of determination ( $R^2$ ) = 0.7867

Standard Error (S.E) = 10.57

t value =  $b/S.E = 4.5421$

For calculation of regression Constant (a) and regression Coefficient (b) following two equations are used:

Regression equation of y or x

$$Y = N \quad a + b \quad X \text{-----(i)}$$

$$XY = a \quad X + b \quad X^2 \text{----- (ii)}$$

Putting the value in equation we have get value of a and b

$$(\dagger x) = \sqrt{\frac{x^2}{n} - Z \frac{x}{n}}^2$$

$$(\dagger y) = \sqrt{\frac{y^2}{n} - Z \frac{y}{n}}^2$$

**where**

$$x = x - \bar{x}$$

$$y = y - \bar{y}$$

$$r = \frac{\sum xy}{n \sigma_x \sigma_y}$$

$$S.E = \frac{\dagger x \sqrt{1 - r^2}}{\dagger x \sqrt{n}}$$

**APPENDIX – B10**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	20	1324.16	400	1753400	-14.316	-534.51	7652.045	26483.2
2004/05	31.6	1541.76	997.2964	2377024	-2.736	-316.91	867.0658	48688.78
2005/06	35	1766.18	1225	3119392	0.684	-92.49	-63.2632	61816.3
2006/07	40	2147.04	1600	4609781	5.684	288.37	1639.095	85881.6
2007/08	45	2514.21	2025	6321252	10.684	655.54	7003.789	113139.5
	171.6	9293.35	6247.296	18180848	0	0	17098.73	336009.3

**Note:** Values of X represent Dividend Per Share  
Values of Y represent Net Worth

Results:

n = 5	a = 226.60
X = 171.6	b = 47.56
Y = 9293.35	† X = 8.48
XY = 336009.3	† Y = 426
X <sub>2</sub> = 6247.296	r = 0.6368
Y <sub>2</sub> = 18180848	
$\bar{x}$ = 34.316	$\bar{y}$ = 1858.67

Simple regression results of NW = a + b DPS

**Where**

DPS = Divided per share  
NW = Net Worth (In Million)  
Coefficient of determination (R<sup>2</sup>) = 0.8960  
Standard error(S.E)=6.864  
t value =b/S.E=6.9289

For calculation of regression Constant (a) and regression Coefficient (b) following two equations is used:

Regression equation of y or x

$$Y = N \quad a + b \quad X \text{-----(i)}$$

$$XY = a \quad X + b \quad X_2 \text{----- (ii)}$$

Putting the value in equation we have get value of a and b

$$(\dagger x) = \sqrt{\frac{x^2}{n} - Z \frac{x}{n}}^2$$

$$(\dagger y) = \sqrt{\frac{y^2}{n} - Z \frac{y}{n}}^2$$

where

$$x = x - \bar{x}$$

$$y = y - \bar{y}$$

$$r = \frac{\sum xy}{n \sigma_x \sigma_y}$$

$$S.E = \frac{\dagger x \sqrt{1 - r^2}}{\dagger x \sqrt{n}}$$

### **APPENDIX-C<sub>1</sub>** **EVEREST BANK LIMITED**

Year	DPS	EPS	Net profit (In Million)	Market Price Per share (in Rs.)	Net worth (In Million)	Book Value Per Share (in Rs.)
2003/04	20	45.61	143.64	680	540.3	171.5
2004/05	20	54.2	170.73	870	692.6	219.87
2005/06	25	62.8	273.31	1379	822.8	217.67
2006/07	40	78.4	296.35	2430	1106.6	292.75
2007/08	50	91.82	451.20	3132	1581.2	321.77

### **APPENDIX-C<sub>2</sub>** **Calculation of dividend growth rate**

Year	DPS
2003/04	20
2004/05	20
2005/06	25
2006/07	40
2007/08	50

If we analysis the growth of dividend paid we find difference between the actual dividend paid by the bank and dividend to be paid according to growth rate.

Dividend paid in based year (D<sub>0</sub>) =20

Dividend paid in final year (D<sub>5</sub>) =50

No. of years (n) = 5 years

Growth rate (g) =? We

know that

$$D_5 = D_0 (1+g)^4 (1+g)$$

$$^4 = 50/20 (1+g) =$$

$$(2.50)^{0.25}$$

$$g = 25.7\%$$

According to this formula the growth rate of HBL is 25.7%

**APPENDIX – C3**  
**Calculation of dividend payout ratio**

Year	DPS	EPS	DPR=DPS/EPS
2003/04	20	45.6	43.86%
2004/05	20	54.2	36.90%
2005/06	25	62.8	39.81%
2006/07	40	78.4	51.021%
2007/08	50	91.82	54.45%

**Where**

DPS = Dividend per Share

EPS = Earning Per Share

DPR = Dividend payout ratio

**APPENDIX – C4**  
**Calculation of price earning ratio**

Year	MVPS	EPS	P/E ratio= MVPS/EPS _____
2003/04	680	45.6	14.92
2004/05	870	54.2	16
2005/06	1379	62.8	22
2006/07	2430	78.4	31
2007/08	3132	91.82	34.1

**Where**

MVPS = Market value per share

EPS = Earning Per Share

P/E ratio = Price earning ratio

### APPENDIX – C5

#### Calculation of market value per share to book value per share

Year	MVPS	BVPS	MVPS/BVPS
2003/04	680	171.5	3.96
2004/05	870	219.87	3.96
2005/06	1379	217.67	6.34
2006/07	2430	292.75	8.30
2007/08	3132	321.77	9.73

**Where**

MVPS = Market value per share

BVPS = Book value per share

### APPENDIX – C6

#### Calculation of Dividend Yield Ratio

Year	DPS	MVPS	D/Yratio=DPS/MVPS
2003/04	20	68	2.94%
2004/05	20	87	2.30%
2005/06	25	1379	1.81%
2006/07	40	2430	1.65%
2007/08	50	3132	1.60%

**Where**

DPS = Dividend per share

MVPS = Market value per share

D/Y = Dividend yield ratio

### APPENDIX – C7

#### Variables use in Analysis

Years	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	45.61	20	2080.272	400	-20.95	-11	230.45	912.2
2004/05	54.2	20	2937.64	400	-12.36	-11	135.96	1084
2005/06	62.8	25	3943.84	625	-3.76	-6	22.56	1570
2006/07	78.4	40	6146.56	1600	11.84	9	106.56	3136
2007/08	91.82	50	8430.912	2500	25.26	19	479.94	4591
	332.83	155	23539.22	5525	0	0	975.47	11293.2

**Note:**

Values of X represent Earning Per Share  
 Values of Y represent Dividend Per Share

Results:

n = 5	a = -45.16
X = 332.83	b = 1.4008
Y = 155	† X = 8.1535
XY = 11293.2	† Y = 16.086
X <sup>2</sup> = 23539.22	r = 0.7100
Y <sup>2</sup> = 5525	
$\bar{x}$ = 54.198	$\bar{y}$ = 30.758

Simple regression results of DPS = a + b EPS

**Where,**

DPS = Divided per share

EPS = Earning Per Share

**Then,**

Coefficient of determination (R<sup>2</sup>) 0.5041

Standard Error (S.E) = 0.5887

t value = b/S.E = 2.379

For calculation of regression Constant (a) and regression Coefficient (b) following two equations is used::

Regression equation of y or x

$$Y = N \quad a + b \quad X \text{-----(i)}$$

$$XY = a \quad X + b \quad X^2 \text{----- (ii)}$$

Putting the value in the equation, we get value of a and b  
 Putting the value in the equation, we get value of a and b

For † x and † y we have

$$(\dagger x) = \sqrt{\frac{x^2}{n} - Z \frac{x}{n}^2}$$

$$(\dagger y) = \sqrt{\frac{y^2}{n} - Z \frac{y}{n}^2}$$

**where**

$$x = x - \bar{x}$$

$$y = y - \bar{y}$$

$$S.E = \frac{\dagger x \sqrt{1 - r^2}}{\dagger x \sqrt{n}}$$

$$r = \frac{\sum xy}{n \sigma_x \sigma_y}$$



**APPENDIX – C8**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	143.64	20	20632.45	400	-123.406	-11	1357.466	2872.8
2004/05	170.73	20	29148.73	400	-96.316	-11	1059.476	3414.6
2005/06	273.31	25	74698.36	625	6.264	-6	-37.584	6832.75
2006/07	296.35	40	87823.32	1600	29.304	9	263.736	11854
2007/08	451.2	50	203581.4	2500	184.154	19	3498.926	22560
	1335.23	155	415884.3	5525		0	6142.02	

Values of X represent Net Profit

Values of Y represent Dividend per Share

Results:

n = 5

X = 1335.23

Y = 155

XY = 47534.15

X<sup>2</sup> = 415884.3

Y<sup>2</sup> = 5525

$\bar{x}$  = 267.045

a = 3.36

b = 0.1035

† X = 109

† Y = 12

r = 0.9391

$\bar{y}$  = 31

Simple regression results of DPS = a + b NP

**Where**

DPS = Divided per share

NP = Net Profit (Rs in million)

Coefficient of determination (R<sup>2</sup>) = 0.8819

Standard Error (S.E) = 0.01602

t value = b/S.E = 6.4607

[ The values a, b, r and S.E. are calculated as same as in Appendix B<sub>7</sub>]

**APPENDIX – C9**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	20	680	400	462400	-11	-1018.2	11200.2	13600
2004/05	20	870	400	756900	-11	-828.2	9110.2	17400
2005/06	25	1379	625	1901641	-6	-319.2	1915.2	34475
2006/07	40	2430	1600	5904900	9	731.8	6586.2	97200
2007/08	50	3132	2500	9809424	19	1433.8	27242.2	156600
	155	8491	5525	18835265	0	0	56054	319275

Note:

Values of X represent Dividend Per Share  
 Values of Y represent market Price Per Share

Results:

n = 5    a = -715.15  
 X = 155    b = 77.85  
 Y = 8491                                        † X = 12  
 XY = 319275                                   † Y = 940  
 X<sub>2</sub> = 5525                                      r = 0.9876  
 Y<sub>2</sub> = 18835265  
 $\bar{x} = 31$      $\bar{y} = 1698.2$

Simple regression results of  $P_m = a + b \text{ DPS}$

**Where**

P<sub>m</sub> = Market price per share

DPS = Divided per share

Coefficient of determination ( $R^2$ ) = 0.9876

Standard Error (S.E) = 32.98 t value = b/S.E = 2.36

[ The values a, b, r and S.E. are calculated as same as in Appendix B8]

**APPENDIX – C10**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	20	540.3	400	291924.1	-11	-408.4	4492.4	10806
2004/05	20	692.6	400	479694.8	-11	-256.1	2817.1	13852
2005/06	25	822.8	625	676999.8	-6	-125.9	755.4	20570
2006/07	40	1106.6	1600	1224564	9	157.9	1421.1	44264
2007/08	50	1581.2	2500	2500193	19	632.5	12017.5	79060
Total	155	4743.5	5525	5173376	0	0	21503.5	168552

**Note:**

Values of X represent Divided per share

Values of Y represent Net Worth.

Results:

n = 5    a = 22.73  
 X = 155    b = 29.87  
 Y = 4743.5                                      † X = 12  
 XY = 168552                                   † Y = 367  
 X<sub>2</sub> = 5525                                      r = 0.9765  
 Y<sub>2</sub> = 4743.5  
 $\bar{x} = 31$      $\bar{y} = 948.7$

Simple regression results of NW = a+b DPS

**Where**

NW = Net Worth (in Million)

DPS = Dividend Per Share

Coefficient of determination ( $R^2$ ) = 0.9535

Standard Error (S.E) = 2.794

t value =  $b/S.E=10.69$ 

[ The values a, b, r and S.E. are calculated as same as in Appendix B9]

**APPENDIX-D<sub>1</sub>**  
**NEPAL INVESTMENT BANK LIMITED**

Year	DPS	EPS	Net Profit [In million]	Market Price Per Share [in Rs]	Net Worth [In million]	Book value Per Share [in Rs]
2003/04	15	51.7	152.37	940	729.048	246.89
2004/05	12.5	39.5	232.6	800	1180.17	200.8
2005/06	55.46	59.35	350.51	1260	1415.44	239.68
2006/07	30	62.57	501.41	1729	1878.12	234.97
2007/08	40.83	57.87	696.71	2450	2686.79	223.171

**APPENDIX -D<sub>2</sub>**  
**Calculation of dividend Growth rate**

Year	DPS
2003/04	15
2004/05	12.5
2005/06	55.46
2006/07	30
2007/08	40.83

If we analysis the growth of dividend paid we find difference between the actual dividend paid by the bank and dividend to be paid according to growth rate.

Dividend paid in based year ( $D_0$ ) =15Dividend paid in final year ( $D_5$ ) =40.83

No. of years (n) = 5 years

Growth rate (g)

=? We know that

$$D_5 = D_0 (1+g)^4$$

$$(1+g)^4 = 40.83/15$$

$$(1+g) = (2.722)^{0.25}$$

$$g = 28.45\%$$

According to this formula the growth rate of NIBL is 28.45%

**APPENDIX –D<sub>3</sub>**  
**Calculation of dividend payout ratio**

Year	DPS	EPS	DPR=DPS/EPS
2003/04	15	51.7	29.01%
2004/05	12.5	39.5	31.65%
2005/06	55.46	59.35	93.44%
2006/07	30	62.57	47.95%
2007/08	40.83	57.87	70.92%

DPS = Dividend per Share

EPS = Earning Per Share

DPR = Dividend payout ratio

**APPENDIX – D<sub>4</sub>**

Year	MVPS	EPS	P/E ratio= MVPS/EPS
2003/04	940	51.7	18.18
2004/05	800	39.5	20.25
2005/06	1260	59.35	21.23
2006/07	1729	62.57	27.63
2007/08	2450	57.87	42.34

**Where,**

MVPS = Market value per share

EPS = Earning Per Share

P/E ratio = Price earning ratio

**APPENDIX – D<sub>5</sub>**

Year	MVPS	BVPS	MVPS/BVPS
2003/04	940	246.89	3.81
2004/05	800	200.8	3.98
2005/06	1260	239.68	5.26
2006/07	1729	234.97	7.36
2007/08	2450	223.171	10.97

**Where,**

MVPS = Market value per share

BVPS = Book value per share

**APPENDIX – D6**  
**Calculation of Dividend yield ratio**

Year	DPS	MVPS	D/Y ratio= DPS / MVPS
2003/04	15	940	1.596
2004/05	12.5	800	1.563
2005/06	55.46	1260	4.401
2006/07	30	1729	1.73
2007/08	40.83	2450	1.66

**Where,**

DPS = Dividend per share

MVPS = Market value per share

D/Y = Dividend yield ratio

**APPENDIX – D7**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	51.7	15	2672.89	225	-2.498	-15.758	39.36348	775.5
2004/05	39.5	12.5	1560.25	156.25	-14.698	-18.258	268.3561	493.75
2005/06	59.35	55.46	3522.423	3075.812	5.152	24.702	127.2647	3291.551
2006/07	62.57	30	3915.005	900	8.372	-0.758	-6.34598	1877.1
2007/08	57.87	40.83	3348.937	1667.089	3.672	10.072	36.98438	2362.832
	<b>270.99</b>	<b>153.79</b>	<b>15019.5</b>	<b>6024.151</b>	<b>0</b>	<b>0</b>	<b>465.6227</b>	<b>8800.733</b>

Values of X represent Earning per Share

Values of Y represent Dividend per Share

Results:

n = 5

X = 270.99

Y = 153.79

XY = 8800.7335

X<sup>2</sup> = 15019.5

Y<sup>2</sup> = 6024.151

$\bar{x}$  = 54.198

a = -45.16

b = 1.4008

† X = 8.1535

† Y = 16.086

r = 0.7100

$\bar{y}$  = 30.758

Simple regression results of DPS = a + b EPS

Where

DPS = Divided per share

EPS = Earning Per Share

**Then**Coefficient of determination ( $R^2$ ) 0.5041

Standard Error (S.E) = 0.5887

t value =  $b/S.E=2.379$ [ The values a, b, r and S.E. are calculated as same as in Appendix B<sub>7</sub>]**APPENDIX – D8**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	152.37	15	23216.62	225	-234.35	-15.758	3692.887	2285.55
2004/05	232.6	12.5	54102.76	156.25	-154.12	-18.258	2813.923	2907.5
2005/06	350.51	55.46	122857.3	3075.812	-36.21	24.702	-894.459	19439.28
2006/07	501.41	30	251412	900	114.69	-0.758	-86.935	15042.3
2007/08	696.71	40.83	485404.8	1667.089	309.99	10.072	3122.219	28446.67
	<b>1933.6</b>	<b>153.79</b>	<b>936993.4</b>	<b>6024.151</b>	<b>0</b>	<b>0</b>	<b>8647.635</b>	<b>68121.3</b>

Values of X represent Net Profit

Values of Y represent Dividend per Share

Results:

n = 5

X = **1933.6**

Y = 153.79

XY = 68121.3

X<sup>2</sup> = 936993.4Y<sup>2</sup> = 6024.151 $\bar{x}$  = 386.72

a = 13.1283.36

b = .0456

† X = 194.54

† Y = 16.086

r = 0.5527

 $\bar{y}$  = 16.086

Simple regression results of DPS = a + b NP

**Where**

DPS = Divided per share

NP = Net Profit (Rs in million)

Coefficient of determination ( $R^2$ ) = 0.3055

Standard Error (S.E) = 2.9197

t value =  $b/S.E=0.01562$ [ The values a, b, r and S.E. are calculated as same as in Appendix B<sub>7</sub>]

**APPENDIX – D9**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	1	940	225	883600	-15.758	-495.8	7812.816	14100
2004/05	12.5	800	156.25	640000	-18.258	-635.8	11608.44	10000
2005/06	55.46	1260	3075.812	1587600	24.702	-175.8	-4342.61	69879.6
2006/07	3	1729	900	2989441	-0.758	293.2	-222.246	51870
2007/08	40.83	2450	1667.089	6002500	10.072	1014.2	10215.02	100033.5
	<b>153.79</b>	<b>7179</b>	<b>6024.151</b>	<b>12103141</b>	<b>0</b>	<b>0</b>	<b>25071.42</b>	<b>245883.1</b>

**Note**

Values of X represent Dividend per Share  
Values of Y represent market Price per Share

**Results:**

n = 5	a = 839.80
X = 153.79	b = 19.3770
Y = 7179	† X = 16.086
XY = 245883.1	† Y = 599.25
X <sub>2</sub> = 6024.151	r = 0.52018
Y <sub>2</sub> = 12103141	
$\bar{x}$ = 386.72	$\bar{y}$ = 16.086

Simple regression results of  $P_m = a + b \text{ DPS}$

Where,

$P_m$  = Market price per share

DPS = Divided per share

Coefficient of determination ( $R^2$ ) = 0.27059

Standard Error (S.E) = 31.82

t value =  $b/S.E = 0.6089$

[ The values a, b, r and S.E. are calculated as same as in Appendix B8]

**APPENDIX – D10**  
**Variables use in Analysis**

Year	X	Y	X <sup>2</sup>	Y <sup>2</sup>	x=X- $\bar{x}$	y=Y- $\bar{y}$	xy	XY
2003/04	1	729.048	225	531511	-15.758	-848.866	13376.43	10935.72
2004/05	12.5	1180.17	156.25	1392808	-18.258	-397.741	7261.955	14752.16
2005/06	55.46	1415.44	3075.812	2003470	24.702	-162.474	-4013.43	78500.3
2006/07	3	1878.12	900	3527350	-0.758	300.21	-227.559	56343.72
2007/08	40.83	2686.79	1667.089	7218819	10.072	1108.872	11168.56	109701.5
	<b>153.79</b>	<b>7889.571</b>	<b>6024.151</b>	<b>14673958</b>	<b>0</b>	<b>0</b>	<b>27565.95</b>	<b>270233.4</b>

**Note:**

Values of X represent Divided per share  
Values of Y represent Net Worth

**Results:**

n = 5	a = 1423.6922.73
X = 153.79	b = 21.3054
Y = 7889.517	† X = 16.086
XY = 270233.4	† Y = 667.066
X <sub>2</sub> = 6024.151	r = 0.5138
Y <sub>2</sub> = 14673958	
$\bar{x}$ = 30.758	$\bar{y}$ = 1577.91

Simple regression results of NW = a+b DPS

**Where**

NW = Net Wroth (in Million)

DPS = Divided Per Share

Coefficient of determination (R<sup>2</sup>) = 0.2640

Standard Error (S.E) = 15.075

t value = b/S.E=1.41

[ The values a, b, r and S.E. are calculated as same as in Appendix B9]

**APPENDIX-E  
Hypothesis test of EPS**

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	(X <sub>1</sub> -X <sub>1</sub> ) <sup>2</sup>	(X <sub>2</sub> -X <sub>2</sub> ) <sup>2</sup>	(X <sub>3</sub> -X <sub>3</sub> ) <sup>2</sup>
2003/04	49.05	45.6	51.7	47.1969	439.3216	6.24
2004/05	47.91	54.2	39.5	64.1601	152.7696	216.031
2005/06	59.24	62.8	59.35	11.0224	14.1376	26.5431
2006/07	60.66	78.4	62.57	22.4676	140.1856	70.0904
2007/08	62.74	91.82	57.87	46.5124	638.0676	13.4836
Total	279.6	332.82	270.99	191.3594	1384.482	332.3883
Mean	55.92	66.564	54.198			

grand mean  $\bar{X} = (279.6+332.82+270.99)/15$   
 $=58.894$

Sum of square between sample banks (S.S.B)  $=n_1(X_1-\bar{X})+n_2(X_2-\bar{X})+(X_3-\bar{X})$   
 $= 5(55.92-58.894)_2+5(66.564-58.894)_2+5(54.198-58.894)_2$   
 $= 448.63$

Sum of square within sample banks  $= (X_1-X_1)^2+ (X_2-X_2)^2+ (X_3-X_3)^2$   
 $=191.3594+1384.482+332.3883$   
 $= 1908.23$



### Hypothesis test of DPS

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	(X <sub>1</sub> -X <sub>1</sub> ) <sup>2</sup>	(X <sub>2</sub> -X <sub>2</sub> ) <sup>2</sup>	(X <sub>3</sub> -X <sub>3</sub> ) <sup>2</sup>
2003/04	20	20	15	204.9479	121	248.3146
2004/05	31.58	20	12.5	7.485696	121	333.3546
2005/06	35	25	55.46	0.467856	36	610.1888
2006/07	40	40	30	32.30786	81	0.574564
2007/08	45	50	40.83	114.1479	361	101.4452
Total	171.58	155	15.79	359.3571	720	1293.878
Mean	34.316	31	30.758			

$$\text{grand mean } \bar{X} = (171.58+155+15.79)/15 \\ = 32.025$$

$$\text{Sum of square between sample banks (S.S.B)} = n_1(X_1 - \bar{X})^2 + n_2(X_2 - \bar{X})^2 + n_3(X_3 - \bar{X})^2 \\ = 5(34.316-32.025)^2 + 5(31-32.025)^2 + 5(30.758-32.025)^2 \\ = 39.522$$

$$\text{Sum of square within sample banks} = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2 \\ = 359.3571 + 720 + 1293.878 \\ = 2373.235$$

### Hypothesis test of MPS

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	(X <sub>1</sub> -X <sub>1</sub> ) <sup>2</sup>	(X <sub>2</sub> -X <sub>2</sub> ) <sup>2</sup>	(X <sub>3</sub> -X <sub>3</sub> ) <sup>2</sup>
2003/04	840	680	940	226576	1050720	245817.6
2004/05	920	870	800	156816	685915.2	404241.6
2005/06	1100	1379	1260	46656	01888.6	30905.64
2006/07	1740	2430	1729	179776	535531.2	85966.24
2007/08	1980	3132	2450	440896	2055782	1028602
Total	6580	8491	7179	1050720	4415849	1795533
Mean	1316	1698.2	1435.8			

$$\text{grand mean } \bar{X} = (6580 + 8491 + 7179) / 15 \\ = 1483.33$$

$$\text{Sum of square between sample banks (S.S.B)} = n_1(X_1 - \bar{X})^2 + n_2(X_2 - \bar{X})^2 + n_3(X_3 - \bar{X})^2 \\ = 5(1316-1483.33)^2 + 5(1698.2-1483.33)^2 + 5(1435.8-1483.33)^2 \\ = 382137.733$$

$$\text{Sum of square within sample banks} = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2 \\ = 1050720 + 4415849 + 1795533 \\ = 7262102$$

### Hypothesis test of NET PROFIT

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	(X <sub>1</sub> -X <sub>1</sub> ) <sup>2</sup>	(X <sub>2</sub> -X <sub>2</sub> ) <sup>2</sup>	(X <sub>3</sub> -X <sub>3</sub> ) <sup>2</sup>
2003/04	263.03	143.64	152.37	28313.45	15229.04	54919.92
2004/05	308.3	170.73	232.6	15128.02	9276.772	23752.97
2005/06	457.45	273.31	350.51	684.0317	39.2377	1311.164
2006/07	491.83	296.35	501.41	3664.365	858.7244	13153.8
2007/08	635.87	451.2	696.71	41850.52	33912.7	96093.8
Total	2156.48	2156.48	1933.6	89640.38	59316.47	189231.7
Mean	431.296	267.046	386.72			

$$\text{grand mean } \bar{X} = (2156.48+2156.48+1933.6)/15 \\ = 361.6873$$

$$\text{Sum of square between sample banks (S.S.B)} = n_1(X_1 - \bar{X})^2 + n_2(X_2 - \bar{X})^2 + n_3(X_3 - \bar{X})^2 \\ = 5(431.296-361.6873)^2 + 5(267.046-361.6873)^2 + 5(386.72-361.6873)^2 \\ = 72144.913$$

$$\text{Sum of square within sample banks} = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2 \\ = 89640.38 + 59316.47 + 189231.7 \\ = 338188.50$$

### Hypothesis test of NET WORTH

Year	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	(X <sub>1</sub> -X <sub>1</sub> ) <sup>2</sup>	(X <sub>2</sub> -X <sub>2</sub> ) <sup>2</sup>	(X <sub>3</sub> -X <sub>3</sub> ) <sup>2</sup>
2003/04	1324.16	540.3	729.048	285700.9	166790.6	720573.5
2004/05	1541.76	692.6	1180.17	100431.9	65587.21	158197.9
2005/06	1766.18	822.8	1415.44	8554.4	15850.81	26397.8
2006/07	2147.04	1106.6	1878.12	83157.26	24932.41	90126.04
2007/08	2514.21	1581.2	2686.79	429732.7	400056.3	1229597
Total	9293.35	4743.5	7889.571	907577.2	673217.2	2224892
Mean	1858.67	948.7	1577.914			

$$\text{grand mean } \bar{X} = (1858.67+948.7+1577.914)/3 \\ = 1461.761$$

$$\text{Sum of square between sample banks (S.S.B)} = n_1(X_1 - \bar{X})^2 + n_2(X_2 - \bar{X})^2 + n_3(X_3 - \bar{X})^2 \\ = 5(1858.67-1461.761)^2 + 5(755.8-1461.761)^2 + 5(405.4-1461.761)^2 \\ = 2171299.37$$

$$\text{Sum of square within sample banks} = (X_1 - X_1)^2 + (X_2 - X_2)^2 + (X_3 - X_3)^2 \\ = 907577.2 + 673217.2 + 2224892 \\ = 3805686.4$$